United States Department of Agriculture

NRCS

Natural Resources Conservation Service

In cooperation with Illinois Agricultural Experiment Station

Soil Survey of Vermilion County, Illinois

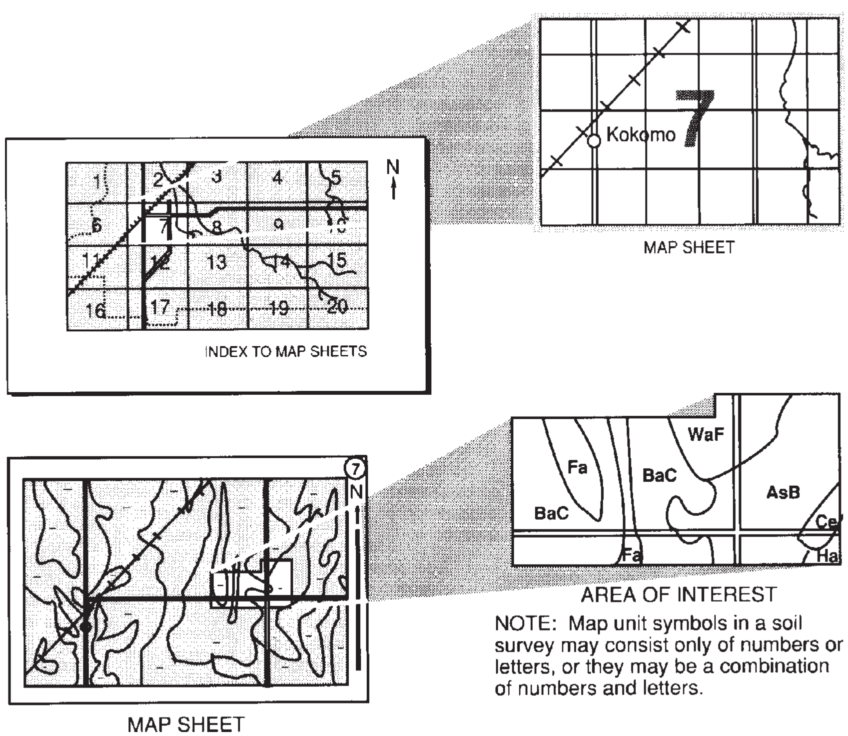
How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Illinois Agricultural Experiment Station. It is part of the technical assistance furnished to the Vermilion County Soil and Water Conservation District. Financial assistance was provided by the Vermilion County Board and the Illinois Department of Agriculture.

Major fieldwork for this soil survey was completed in 2006. Soil names and descriptions were approved in 2006. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2006. The most current official data are available on the Internet.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Nondiscrimination Statement

Cover Photo Caption

A typical landscape of Elliott and Ashkum soils in Vermilion County. According to the 2002 Census of Agriculture, about 74 percent of the land in the county is used as cropland.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

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Issued 2009

Numerical Index to Map Units

Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each map unit is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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Soil Survey of
Vermilion County, Illinois

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United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with the Illinois Agricultural Experiment Station

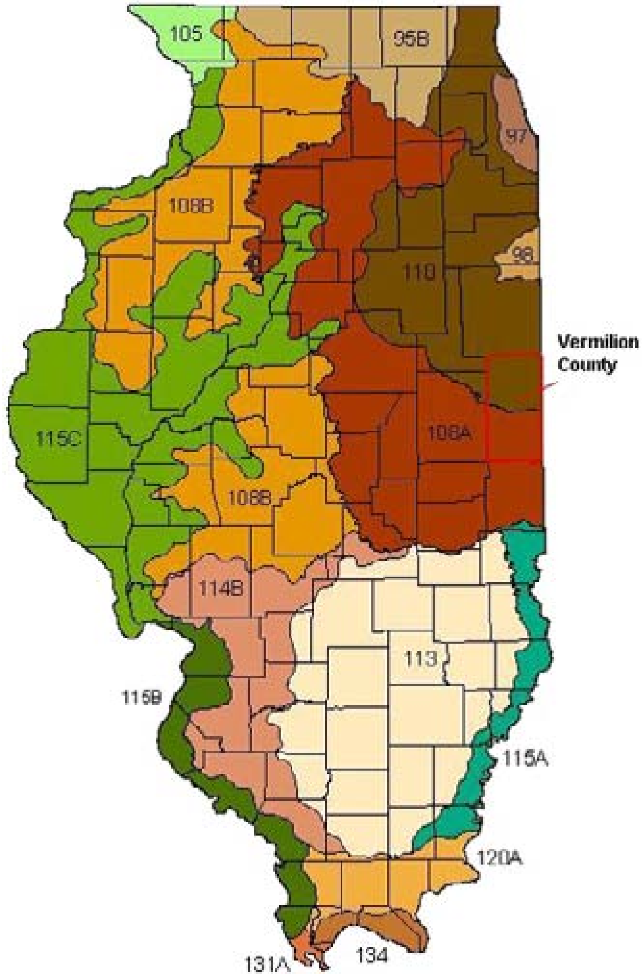
VERMILION COUNTY is in east-central Illinois (fig. 1). It has an area of 577,030 acres, or about 901 square miles. It is bordered by Iroquois County on the north, Edgar County on the south, Champaign and Ford Counties on the west, and Benton, Warren, and Vermillion Counties in Indiana on the east. In the year 2000, the population of the county was 83,919 (U.S. Department of Commerce, 2000). Danville is the county seat and is the largest city in the county.

The survey area is a subset of Major Land Resource Areas (MLRAs) 108A, Illinois and Iowa Deep Loess and Drift, and 110, Northern Illinois and Indiana Heavy Till Plain (USDA/NRCS, 2006).

This soil survey updates the survey of Vermilion County published in 1996 (Wacker, 1996). It provides additional information and has larger maps, which show the soils in greater detail. The information in this survey is also available as part of an interactive CD with GIS functionality and on the NRCS Web Soil Survey (http://soils.usda.gov).

General Nature of the Survey Area

This section provides general information about the survey area. It describes history and development; physiography, relief, and drainage; natural resources; agriculture; industry; transportation facilities; and climate.



LEGEND

95B—Southern Wisconsin and Northern Illinois Drift Plain
97—Southwestern Michigan Fruit and Truck Crop Belt
98—Southern Michigan and Northern Indiana Drift Plain
105—Northern Mississippi Valley Loess Hills
108A and 108B—Illinois and Iowa Deep Loess and Drift
110—Northern Illinois and Indiana Heavy Till Plain
113—Central Claypan Areas
114B—Southern Illinois and Indiana Thin Loess and Till Plain, Western Part
115A, 115B, and 115C—Central Mississippi Valley Wooded Slopes
120A—Kentucky and Indiana Sandstone and Shale Hills and Valleys, Southern Part
131A—Southern Mississippi River Alluvium
134—Southern Mississippi Valley Loess

Figure 1.—Location of Vermilion County and the major land resource areas (MLRAs) in Illinois.

History and Development

The survey area once was inhabitated by the Miami, Kickapoo, and Potawatomi tribes of the Algonquin Indians. Salt deposits found along the Vermilion River attracted a variety of wildlife, which in turn provided an ample food source for the Indians. These

salt springs also attracted the first white settlers to the area. The settlers developed salt works on a site that later became the first white settlement (called Salt Salines).

In 1818, the Kickapoo Indians ceded a large area of land to the Federal government, including the area that is now Vermilion County. Vermilion County was established on January 18, 1826. At one time, it covered a great deal of territory, reaching north almost to Kankakee and west to Peoria. The city of Danville was founded in 1827 and was named the county seat that same year. Vermilion County is named after the Vermilion River, which runs through the county. The river itself was named for the red color of earth in the bluffs above the river.

The majority of the first settlers of Vermilion County came from the American South. Along with the abundant, productive soils, the presence of coal brought more settlers to the county in the mid 1800s. By the late 1800s, Vermilion County ranked first in coal production in Illinois.

The county has ties to Abraham Lincoln. He practiced law in Danville from 1841 to 1859. Also, in 1858, while campaigning for U.S. Senate against Stephen A. Douglas, Lincoln gave a speech in Danville.

Physiography, Relief, and Drainage

Vermilion County is within the Till Plains Section of the Central Lowland Province (Leighton and others, 1948). Two subdivisions within the section make up the survey area. The Bloomington Ridged Plain makes up over 90 percent of the county. The Kankakee Plain, which is in the extreme northern part of the county, makes up the rest of the county.

All of Vermilion County was covered by Pre-Illinoian, Illinoian, and Wisconsinan glaciers during the Pleistocene glacial epoch. The Wisconsinan was the most recent stage of glaciation. These glaciers deposited an average of 200 feet of drift, which forms the base of the present surficial geology (Willman and Frye, 1970). In many areas this drift is covered by 1 to 7 feet of windblown silt, or loess. Most of the present topography is the result of glacial landforms, such as ground moraines, end moraines, lake plains, outwash plains, and valley train deposits, and the erosion of these landforms.

The county is dissected by several gently undulating moraines separated by nearly level till plains or outwash plains. Steep and very steep slopes are near the river valleys. The highest feature in the county is the Gifford Moraine, which reaches an elevation of 790 feet, northwest of Collison. The lowest elevation, in the area where the Vermilion River leaves the county, is 490 feet (fig. 2).

Most of Vermilion County is drained by the Vermilion River and its tributaries (fig. 3), including the North Fork, Middle Fork, and Salt Fork Rivers. The Little Vermilion River drains the southern part of the county. These watercourses drain primarily to the south and east, toward the Wabash River.

Natural Resources

As evidenced by the large agriculture industry, soil is the most abundant natural resource in Vermilion County. Other natural resources in the county include coal, limestone, sand, and gravel. Vermilion County has more than 3 billion tons of minable coal reserves (Treworgy and Bargh, 1982). Both underground and strip mining methods have been used. More than 6,000 acres of land in Vermilion County has been strip mined. In the western part of the county, near Fairmount, a large limestone quarry has been in operation since the early 1900s. The quarry produces crushed limestone for concrete aggregate. Sand and gravel resources in the county are of glacial origin; these materials were deposited by meltwater from receding glaciers.

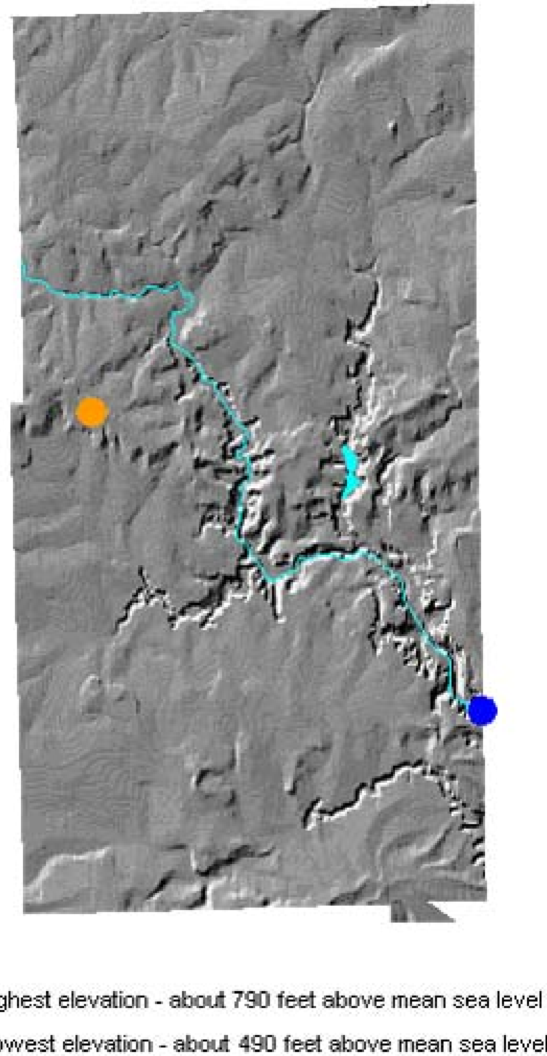


Figure 2.—Generalized relief map showing the location of the highest and lowest elevations in Vermilion County. (Source: Illinois State Geological Survey, http://www.isgs.uiuc.edu/education/hi-low/hilow-intro.shtml)

Drinking water is supplied by reservoirs and wells. Ground-water resources are in water-bearing sand and gravel deposits throughout the county. Lake Vermilion provides drinking water for Danville and the surrounding areas. Many farm ponds provide water for livestock.

Agriculture

Like much of Illinois, Vermilion County has some very fertile farmland. Agriculture has been the dominant land use for decades. In 2002, farmland still made up 78 percent of the county (U.S. Department of Commerce, 2002).

Agriculture in Vermilion County consists of commodity crop production and livestock. The largest agricultural land use is the production of corn and soybeans. The top livestock inventory is hogs and pigs, followed by cattle and calves. In 2002, the number of swine totaled 19,056 and the number of cattle and calves was 8,403.

The market value of Vermilion County agricultural products exceeded $124 million in 2002, and over 38 percent of the county's farms generated annual sales of $100,000 or more. Corn, soybeans, small grain, and nursery and greenhouse crops accounted for 94 percent of the market value of agricultural products sold in 2002, and livestock, poultry, and related products accounted for the remaining 6 percent.

In 1992, the county had 1,112 farms on 488,215 acres. In 2002, there were 909 farms on 449,964 acres. This number represents about an 18 percent decline in the number of farms in the 10-year span. While the number of farms has decreased, however, the average farm size has increased. In 1992, the average farm size was 439 acres; in 2002, the average farm size had increased by about 13 percent, to 495 acres.

Industry

A number of industries are located in Vermilion County. Agriculture and agribusiness are important parts of the local economy. The manufacturing base consists of several large and many smaller industries. The principal manufactured products are ballasts for fluorescent light fixtures, aerosol products, metal aerospace components, insulation hardware, fabricated steel, industrial lift trucks, foundry equipment, roofing material, evaporators and condensers, fireworks, metal castings, fertilizers, animal feeds, food products, and packaging material. Other sectors in the economic base include health care, mining, retail sales, construction, education, and administrative jobs.

Figure 3.—A view of an area of the Vermilion River Valley. Shaffton and Dozaville soils are on the flood plains, and Marseilles soils are on the wooded upland slopes in the background.

Transportation Facilities

Vermilion County has a well developed transportation system of highways and railroads. The road network includes Interstate 74; U.S. Highways 136 and 150; and State Highways 1, 9, 49, and 119. The county highway system provides further connections between incorporated and unincorporated areas. Freight is also shipped by rail. Several lines run through the county. The Vermilion County airport is located about 4 miles northeast of Danville and serves the county's local recreational and business needs.

Climate

Prepared by the Natural Resources Conservation Service, National Water and Climate Center, Portland, Oregon, and the Illinois State Water Survey, Champaign, Illinois.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Danville, Illinois, in the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, the average temperature is 29.2 degrees F and the average daily minimum temperature is 20.7 degrees. The lowest temperature during the period of record, which occurred at Danville on January 17, 1982, was -26 degrees. In summer, the average temperature is 73.5 degrees and the average daily maximum temperature is 84.6 degrees. The highest temperature, which occurred on August 4, 1988, was 102 degrees.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is 40.96 inches. Of this total, 24.39 inches, or about 60 percent, usually falls in April through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall on record was 5.4 inches at Danville on August 4, 1968. Thunderstorms occur on about 41 days each year, and most occur in July.

The average seasonal snowfall is 20.9 inches. The heaviest 1-day snowfall on record was 14 inches at Danville on February 21, 1912. The greatest snow depth at any one time during the period of record was 16 inches, recorded on December 30, 1973. On an average, 24 days per year have at least 1 inch of snow on the ground.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 83 percent. The sun shines 67 percent of the time possible in summer and 46 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 11 to 12 miles per hour, from November to April.

How This Survey Was Made

Soil surveys are updated as part of maintenance projects that are conducted for a major land resource area (MLRA) or other region. Maintaining and coordinating soil survey information within a broad area result in uniformly delineated and joined soil maps and in coordinated interpretations and map unit descriptions for areas that have similar physiography, climate, and land use.

Updated soil survey information is coordinated within the major land resource area or other region and meets the standards established and defined in the memorandum of understanding. Soil surveys that are consistent and uniform within a broad area

enable the coordination of soil management recommendations and a uniform program application of soil information.

This survey was made to provide information about the soils and miscellaneous areas in Vermilion County, which is a subset of Major Land Resource Areas (MLRAs) 108A and 110 (fig. 1). Major land resource areas are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and vegetation (USDA/NRCS, 2006). Map unit design and the detailed soil descriptions are based on the occurrence of each soil throughout an MLRA.

The information in this survey includes a description of the soils and miscellaneous areas and their location and a discussion of their properties and the subsequent effects on suitability, limitations, and management for specified uses.

Soil scientists from both the prior soil survey and the update survey observed the steepness, length, and shape of the slopes; the degree of erosion; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They made borings and dug holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict, with a considerable degree of accuracy, the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries. After soil scientists located and identified the significant natural bodies of soil in the survey area, they then drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit.

Fieldwork for the Vermilion County soil survey update consisted primarily of soil transects conducted by soil scientists. Soil transects are a systematic method of sampling a specific soil type. Soil borings are taken at regular intervals. Soil scientists then record the characteristics of the soil profiles that they study. They note soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. This information can be used to run statistical analyses for specific soil properties. The results of these analyses, along with other observations, enable the soil scientists to assign the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict, with a fairly high degree of accuracy, that a given soil will have a high water table within certain depths in most years. But they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

Aerial photographs used in this update survey were taken in 1993, 1998, and 1999. Soil scientists also studied U.S. Geological Survey topographic maps and orthophotographs to relate land and image features. Adjustments of soil boundary lines on the original field maps were made to coincide with the U.S. Geological Survey topographic map contour lines and tonal patterns on aerial photographs.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of an improved knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

Formation and Classification of the Soils

This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification.

Factors of Soil Formation

Soil forms through processes that act on deposited geologic material. The five major factors of soil formation are the physical and mineralogical composition of the parent material; the climate in which the soil formed; the plant and animal life on and in the soil; the relief; and the length of time the processes of soil formation have acted on the parent material (Jenny, 1941).

Climate and plant and animal life are the dominant active factors of soil formation. They act directly on the parent material, either in place or after it has been moved from place to place by water, wind, or glaciers, slowly changing it into a natural body that has genetically related horizons. Relief modifies soil formation and can inhibit soil formation on the steeper, eroded slopes and in wet, depressional or nearly level areas by controlling the moisture status of soils. Finally, time is needed for changing the parent material into a soil that has differentiated horizons.

The factors of soil formation are so closely interrelated and conditioned by each other that few generalizations can be made regarding the effects of any one factor unless the effects of the other factors are understood.

Parent Material

Parent material is the unconsolidated material in which a soil forms. It determines the chemical and mineralogical composition, the texture, and the structure of the soil. Although almost all of the parent material in Vermilion County is of glacial origin, the properties vary greatly, sometimes within small areas, depending on how the material was deposited. Most of the parent material was deposited by glaciers, meltwater from the glaciers, or wind. In some areas it was reworked and redeposited by subsequent actions of water and wind. The soils in the county formed dominantly in till, outwash deposits, loess, alluvium, or eolian material. Weathered bedrock, colluvium, lacustrine material, and strip-mine overburden are other parent materials in the county.

Till is nonstratified drift transported and deposited directly by glacial ice (fig. 4). It is a compact mixture of gravel, sand, silt, and clay. In Vermilion County, the uppermost layer of till was deposited during the Wisconsinan Glaciation, about 18,500 to 15,500 years ago (Hansel and Johnson, 1993). The Lemont Formation of the Wedron Group is the formation associated with till soils in the county. The medium textured Batestown Member in the south and the finer textured Yorkville Member in the north are primarily diamicton units of the Lemont Formation (Hansel and Johnson, 1996). The loamy Parr and Senachwine soils formed in diamicton of the Batestown Member, and the clayey Elliott and Swygert soils formed in diamicton of the Yorkville Member.

Outwash material was deposited by running water from melting glaciers. The size of the particles in outwash varies, depending on the speed of the stream that carried the material. Coarser particles, such as sand and gravel, were deposited by relatively swiftly moving water. The finer particles, such as silt and clay, were deposited by the

Figure 4.—Unweathered loamy till located several feet below a Birkbeck soil profile.

more slowly moving water. Outwash deposits generally consist of layers of particles that are similar in size, such as loam, silt loam, sand, and gravel. In many places the outwash deposits are more than 5 feet thick. The Henry Formation of the Mason Group is associated with outwash soils in the county. There are two informal facies of the Henry Formation in Vermilion County: the Mackinaw facies along major outwash stream valleys and the Batavia facies deposited beyond ice margins and on outwash plains (Hansel and Johnson, 1996). La Hogue and Kishwaukee soils formed in this outwash. In other places the outwash is a thin deposit overlying till. Andres and Mona soils formed in these materials.

Loess, or wind-deposited silty material, was deposited over the till and outwash in many areas. The Mississippi, Illinois, and Wabash River valleys were the main source of the loess. Wind picked up silt from the valley floors and redeposited it on the uplands. In most of the area north of the Newtown Moraine, the loess is thin if it occurs at all. In most of the southern half of the county, the loess ranges from 20 to more than 60 inches thick. The loess in Vermilion County is part of the Peoria Silt Formation of the Mason Group (Hansel and Johnson, 1996). Ipava and Sable soils formed entirely in loess.

Alluvium is material deposited relatively recently by floodwater from streams. The material varies in texture, depending on the speed of the water from which it was deposited. The alluvium in Vermilion County is made up of recent stratified deposits of the Cahokia Formation (Hansel and Johnson, 1996). Examples of alluvial soils are Landes and Sawmill soils.

In areas where drainage was blocked, shallow lakes were formed. Lacustrine material was deposited in the relatively still water of these glacial lakes. After the coarser fragments were deposited as outwash by moving water, the finer particles, such as very fine sand, silt, and clay, settled in still water. Vertical variation is greater than horizontal variation. The layers in this material are commonly thicker than those in outwash. The fine textured lacustrine deposits are part of the informal Carmi member of the Equality Formation of the Mason Group (Hansel and Johnson, 1996). Milford soils formed on lake plains.

Sandy and loamy eolian materials were deposited when wind removed loamy or sandy material from outwash areas and redeposited it in dunelike formations. Eolian sands are related to glaciofluvial deposits and are included with the Henry Formation (Hansel and Johnson, 1996). Examples of soils that formed in eolian materials are Sparta and Onarga soils.

Shale and siltstone bedrock underlies the glacial deposits in Vermilion County. On some of the backslopes along the Vermilion River, there are no glacial deposits over the bedrock. Marseilles soils formed in material weathered from the bedrock on these slopes.

Organic-rich mineral colluvium was deposited in some of the depressions on the till plains in the northern half of the county. After the glaciers withdrew from the area, these depressions were wet all or most of the year. Organic material from the remains of water-tolerant plants and mineral colluvium from surrounding slopes were deposited in the depressions. Peotone soils formed in colluvium.

Strip-mine overburden consists of glacial deposits, mostly till, that have been stripped from the land during mining operations, mixed together, and redeposited. In many areas fragments of shale, siltstone, and coal also are mixed with the overburden. Lenzburg soils formed in these deposits.

Climate

Vermilion County has a temperate, humid continental climate. The general climate has had an important overall influence on the characteristics of the soils. However, the climate is essentially uniform throughout the county and has not caused any major differences among the soils. Climate has very important effects on weathering, vegetation, and erosion.

The weathering of minerals in the soil increases as temperature and rainfall increase. Most years, this region has enough rainfall and melted snowfall to moisten all of the soils and underlying materials to the level of the permanent water table. The degree of saturation is variable, depending on thickness and permeability of unconsolidated materials, their water-holding capacity, and topography. In general, rainfall either percolates downward to underground outlets, evaporates, is transpired by plants, or moves across the land surface to streams, carrying with it material in solution and suspension. As water moves downward, clay is moved from the surface soil to the subsoil, where it accumulates. Salts of calcium, magnesium, potassium, and other bases, as well as various organic and inorganic colloids, also are formed. Some accumulate where formed, some are carried away in drainage waters, some are moved to other parts of the soil profile to help form soil horizons, and some are taken up by plants in the form of nutrients. The latter tend to be returned to the local soil area unless removed by animals or humans.

Freezing and thawing help to break down rock fragments to smaller and smaller particles, and the action of sun and wind influences many phases of plant and animal life. The climate in Vermilion County has generally favored prairie grasses and hardwood forests.

Spring rains and wind can cause extensive erosion in areas where crop residue, trees, and other vegetative cover have been removed from the surface. More soil will be lost through erosion each year than is formed by natural processes.

Living Organisms

Plants are the principal living organisms affecting the soils in Vermilion County. Micro-organisms, earthworms, insects, large burrowing animals, and humans also have affected soil formation. The chief contribution of plant and animal life is the addition of organic matter and nitrogen to the soil.

The kind and amount of organic material on and in the soil depend on the kind of plants that grew on the soil. The native vegetation in Vermilion County was mainly prairie grasses (fig. 5). Areas adjacent to the streams were wooded, however, and a few scattered areas supported marsh vegetation. Grasses have many fine fibrous roots that add large amounts of organic material to the soil when they die and decay.

Figure 5.—Native prairie grasses, such as big bluestem, once covered a large portion of Vermilion County.

Soils that formed under prairie vegetation, therefore, have a thick, black or dark brown surface layer. In contrast, soils that supported native vegetation of deciduous trees have a thinner, lighter colored surface layer. Forest debris accumulated primarily on the soil surface, where most of it decayed rapidly or was burned or eroded away. A relatively small amount was carried by soil organisms into the upper 1 to 5 inches of mineral soil, where it was partially preserved. In the virgin or uncultivated state, soils that developed under both types of vegetation have a dark surface layer resulting from an accumulation of organic matter. However, the dark layer is much thicker in prairie soils, typically ranging from 10 to 18 inches. Native prairie grasses in the county include big bluestem, indiangrass, and switchgrass. Trees in the wooded areas include oak, hickory, maple, elm, and ash. Elliott and Flanagan soils are examples of soils that formed under prairie vegetation. Blount and Sabina soils are examples of soils that formed under forest vegetation.

Bacteria, fungi, and other micro-organisms help to break down the organic material and thus provide nutrients for plants and other soil organisms. The stability of soil aggregates, which are structure units made up of sand, silt, and clay, is affected by microbial activity because cellular excretions from these organisms help to bind soil particles together. Stable aggregates help to maintain soil porosity and promote favorable relationships among soil, water, and air. Moreover, earthworms, crayfish, insects, and burrowing animals tend to incorporate organic material into the soil and to keep soils open and porous.

Human activities also are important factors in soil formation and development in Vermilion County. Settlers first cleared the native vegetation and plowed the land. By cultivating slopes, the farmers left the soils vulnerable to erosion and deposition. Later, when plant nutrients were depleted in the soil, fertilizer and lime were applied. Strip

mining and urban and industrial expansion also have resulted in land being cleared, excavated, filled, and drained. These practices have had a pronounced effect on past soil formation and on present and future soil development.

Topography

Variations in the slope of the land surface greatly affect natural drainage, erosion, the runoff rate, and soil temperature. In Vermilion County, the slopes range from 0 to 80 percent. Natural drainage ranges from excessively drained to very poorly drained.

Topography influences the formation of soils by its effect on drainage. Drainage, in turn, determines the color of the subsoil. Differences in the color of the subsoil are affected by the degree of oxidation of certain mineral compounds, chiefly iron. Ashkum soils are poorly drained and have a water table near the surface much of the year. The water in the soil pores restricts aeration, and the iron compounds are reduced. As a result, the subsoil is dull gray and is mottled. The gently sloping Catlin soils, however, are moderately well drained. The water table is lower in these soils, and some of the rainfall runs off the surface. Better aeration causes the iron compounds in the Catlin soils to be oxidized, which results in a brownish subsoil.

Topography also influences the amount of erosion by affecting the rate of surface runoff. The more sloping soils generally are more eroded than the less sloping soils. The moderately eroded Senachwine soils, for example, are sloping to moderately steep and have a medium or high runoff rate. The uneroded Jasper soils, however, are nearly level and gently sloping. Runoff is negligible to low on these soils.

Time

The length of time needed for the formation of a soil depends on the other factors of soil formation. Differences in the length of time that the parent materials have been in place are commonly reflected in the degree of profile development. The relatively young Lenzburg soils, for example, have very little profile development compared to the much older Sabina soils. The more rapidly permeable soils form more readily than slowly permeable soils because lime and other soluble minerals are leached more quickly. The moderately permeable Catlin soils, for example, have a thicker solum than the very slowly permeable Clarence soils and have carbonates at a lower depth.

The soils in Vermilion County range from young to mature. The youngest soils are in recently disturbed areas, such as strip-mined areas. The more mature soils are on stable and better drained parts of upland areas. Soils on flood plains are generally less developed than upland soils because they receive repeated deposition of alluvial material.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 4 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol.* An example is Mollisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name

of a suborder indicates the order. An example is Aquoll (*Aqu*, meaning water, plus *oll*, from Mollisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Endoaquolls (*Endo*, meaning within, plus *aquoll*, the suborder of the Mollisols that has an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective Typic identifies the subgroup that typifies the great group. An example is Typic Endoaquolls.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, cation-exchange activity class, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, mesic Typic Endoaquolls.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example is the Drummer series.

Soil Series and Detailed Soil Map Units

In this section, arranged in alphabetical order, each major soil series recognized in the survey area is described. Each series description is followed by detailed descriptions of the associated soil map units.

Characteristics of the soil and the material in which it formed are identified for each soil series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2003). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given under the headings “Use and Management of the Soils” and “Soil Properties.”

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of

such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Elliott silty clay loam, 4 to 6 percent slopes, eroded, is a phase of the Elliott series.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, gravel, is an example.

Table 5 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

Alvin Series

Drainage class: Well drained
Landform: Outwash plains and stream terraces
Parent material: Eolian deposits and/or outwash
Slope range: 2 to 5 percent
Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Alvin fine sandy loam, 2 to 5 percent slopes; at an elevation of 660 feet; 2,190 feet south and 1,790 feet east of the northwest corner of sec. 32, T. 21 N., R. 11 W.; Vermilion County, Illinois; USGS Danville NE topographic quadrangle; lat. 40 degrees 14 minutes 09 seconds N. and long. 87 degrees 36 minutes 57 seconds W., NAD 27; UTM Zone 16, 0447604 Easting and 4454119 Northing, NAD 83:

Ap—0 to 8 inches; brown (10YR 4/3) fine sandy loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; moderately acid; abrupt smooth boundary.

BE—8 to 11 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; very friable; few distinct grayish brown (10YR 5/2) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—11 to 15 inches; dark yellowish brown (10YR 4/4) fine sandy loam; moderate fine subangular blocky structure; friable; few distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—15 to 25 inches; dark yellowish brown (10YR 4/4) fine sandy loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.

E and Bt—25 to 74 inches; yellowish brown (10YR 5/4) loamy fine sand (E); weak medium subangular blocky structure; very friable; strongly acid; dark yellowish brown (10YR 4/6) fine sandy loam (Bt); 3 to 10 percent of volume; occurs as common or many thin lamellae; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.

C—74 to 80 inches; 80 percent brown (10YR 4/3) and 20 percent yellowish brown (10YR 5/6), stratified fine sandy loam; massive; friable; moderately acid.

Range in Characteristics

Depth to the base of soil development: More than 40 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—1 to 4
Texture—fine sandy loam

E, EB, or BE horizon (where present):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—2 to 4
Texture—fine sandy loam, sandy loam, or loamy fine sand

Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—loam, fine sandy loam, or sandy loam

E and Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—2 to 6 in the E part; 3 to 6 in the Bt part
Texture—very fine sand, fine sandy loam, or loamy fine sand

C horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—very fine sand, fine sandy loam, or loamy fine sand

131B—Alvin fine sandy loam, 2 to 5 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and backslopes

Map Unit Composition

Alvin and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have more silt or clay and less sand in the subsoil
- Soils that have more sand and gravel in the lower part of the profile

Dissimilar soils:
- The poorly drained Selma soils on toeslopes
- The somewhat poorly drained Whitaker soils on summits and footslopes

Properties and Qualities of the Alvin Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Ambraw Series

Drainage class: Poorly drained
Landform: Flood plains
Parent material: Loamy alluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls

Typical Pedon

Ambraw loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 365 feet; 700 feet south and 275 feet east of the northwest corner of sec. 30, T. 5 S., R. 14 W.; White County, Illinois; USGS Maunie topographic quadrangle; lat. 38 degrees 04 minutes 04 seconds N. and long. 88 degrees 01 minute 56 seconds W., NAD 27; UTM Zone 16, 0409453 Easting and 4213843 Northing, NAD 83:

Ap—0 to 11 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; firm; few fine roots; few fine irregular iron-manganese concretions throughout; neutral; abrupt smooth boundary.

Btg1—11 to 19 inches; dark gray (10YR 4/1) clay loam; moderate fine subangular blocky structure; firm; few very fine roots; few faint dark gray (10YR 4/1) clay films on faces of peds; few fine and medium irregular iron-manganese concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Btg2—19 to 23 inches; dark gray (10YR 4/1) clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots; few faint dark gray (10YR 4/1) clay films on faces of peds; few fine irregular iron-manganese concretions throughout; few medium prominent dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; 1 percent gravel; neutral; clear smooth boundary.

Btg3—23 to 40 inches; dark gray (N 4/) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; few faint

dark gray (N 4/) clay films on faces of peds; few medium irregular iron-manganese concretions throughout; many medium prominent dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; 2 percent gravel; neutral; clear smooth boundary.

Btg4—40 to 49 inches; dark gray (N 4/) clay loam; weak medium and coarse subangular blocky structure; firm; few faint dark gray (N 4/) clay films on faces of peds; few fine irregular iron-manganese concretions throughout; common medium prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; 2 percent gravel; neutral; clear smooth boundary.

Cg—49 to 60 inches; dark gray (10YR 4/1) sandy loam; massive; friable; few medium prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; 3 percent gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 11 to 18 inches
Depth to the base of soil development: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loam

Btg or Bg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—clay loam or loam

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 or 5
Chroma—0 to 2
Texture—stratified sandy loam to clay loam

3302A—Ambraw loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Ambraw and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker surface soil and are darker in the upper part of the subsoil
- Soils that have less sand and more silt or clay in the subsoil
- Soils that are subject to occasional flooding

Dissimilar soils:
- The well drained Landes soils on flood plains
- The somewhat poorly drained Shaffton soils on flood plains
- Soils that are subject to rare flooding

Properties and Qualities of the Ambraw Soil

Parent material: Loamy alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May
Ponding (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding (frequency, months): Frequent, November through June (fig. 6)
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

Figure 6.—An area of Ambraw loam, 0 to 2 percent slopes, frequently flooded. Filter strips help to maintain water quality and provide food and cover for wildlife.

Andres Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and lake plains
Parent material: Thin mantle of loess or other silty material and the underlying outwash and till
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Andres silt loam, 0 to 2 percent slopes; at an elevation of 633 feet; 1,525 feet south and 510 feet east of the northwest corner of sec. 27, T. 30 N., R. 8 E.; Livingston County, Illinois; USGS Campus topographic quadrangle; lat. 41 degrees 02 minutes 52 seconds N. and long. 88 degrees 18 minutes 17 seconds W., NAD 27; UTM Zone 16, 0390341 Easting and 4544894 Northing, NAD 83:

Ap—0 to 11 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.

BA—11 to 14 inches; brown (10YR 4/3) clay loam; moderate medium subangular blocky structure; friable; few very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt1—14 to 19 inches; brown (10YR 4/3) clay loam; moderate fine subangular blocky structure; friable; few very fine roots; common fine distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine strong brown (7.5YR 5/6) weakly cemented iron-manganese concretions throughout; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt2—19 to 26 inches; grayish brown (10YR 5/2) clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine strong brown (7.5YR 5/6) weakly cemented iron-manganese concretions throughout; common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

Bt3—26 to 36 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; common faint dark gray (10YR 4/1) clay films on faces of peds; few fine strong brown (7.5YR 5/6) weakly cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

2Bt4—36 to 50 inches; light olive brown (2.5Y 5/4) silty clay loam; weak medium prismatic structure; firm; few very fine roots; common faint grayish brown (2.5Y 5/2) clay films on faces of peds; few fine strong brown (7.5YR 5/6) weakly cemented iron-manganese concretions throughout; many medium prominent gray (N 5/) iron depletions in the matrix; 3 percent gravel; very slightly effervescent; slightly alkaline; clear smooth boundary.

2C—50 to 60 inches; light olive brown (2.5Y 5/4) silty clay loam; massive; firm; few fine strong brown (7.5YR 5/6) weakly cemented iron-manganese concretions throughout; many medium prominent gray (N 5/) iron depletions in the matrix; 5 percent gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: Less than 24 inches
Depth to till: 22 to 50 inches
Depth to carbonates: 24 to 55 inches
Depth to the base of soil development: 36 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt or BA horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—2 to 4
Texture—clay loam, loam, sandy clay loam, or silty clay loam

2Bt horizon:
Hue—10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—2 to 4
Texture—silty clay loam
Content of rock fragments—less than 10 percent

2C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silty clay loam or silt loam
Content of rock fragments—less than 10 percent

293A—Andres silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Summits and footslopes

Map Unit Composition

Andres and similar soils: 88 percent
Dissimilar soils: 12 percent

Components of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have less sand and more silt in the upper two-thirds of the subsoil
- Soils that have stratified loamy outwash in the lower part of the profile
- In the area east of Hoopeston, soils that have less silt and more sand in the lower part of the profile

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes
- The well drained Jasper soils on summits

Properties and Qualities of the Andres Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Ashkum Series

Drainage class: Poorly drained
Landform: Ground moraines and end moraines
Parent material: Colluvium and the underlying till
Slope range: 0 to 2 percent
Taxonomic classification: Fine, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Ashkum silty clay loam, 0 to 2 percent slopes; at an elevation of 705 feet; 96 feet south and 2,030 feet east of the northwest corner of sec. 22, T. 34 N., R. 11 E.; Will County, Illinois; USGS Manhattan topographic quadrangle; lat. 41 degrees 25 minutes 30 seconds N. and long. 87 degrees 57 minutes 19 seconds W., NAD 27; UTM Zone 16, 0420168 Easting and 4586370 Northing, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; many very fine roots; neutral; clear smooth boundary.
A—7 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; common very fine roots; neutral; clear smooth boundary.
BAg—12 to 18 inches; dark gray (2.5Y 4/1) silty clay loam; moderate very fine and fine subangular blocky structure; firm; common very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine very dark gray (7.5YR 3/1) very weakly cemented iron-manganese concretions throughout; neutral; clear smooth boundary.
Bg1—18 to 29 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds;

common fine very dark gray (7.5YR 3/1) very weakly cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint gray (2.5Y 5/1) iron depletions in the matrix; neutral; clear wavy boundary.

2Bg2—29 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine very dark gray (10YR 3/1) very weakly cemented iron-manganese concretions throughout; common fine and medium prominent yellowish brown (10YR 5/8) and faint brown (10YR 5/3) masses of oxidized iron in the matrix; common fine and medium faint gray (5Y 5/1) iron depletions in the matrix; 8 percent gravel; neutral; gradual wavy boundary.

2BCg—49 to 54 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to weak coarse angular blocky; firm; few very fine roots; common fine very dark gray (10YR 3/1) very weakly cemented iron-manganese concretions throughout; common fine and medium prominent yellowish brown (10YR 5/6) and faint brown (10YR 5/3) masses of oxidized iron in the matrix; common fine and medium faint gray (2.5Y 5/1) iron depletions in the matrix; 8 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.

2Cg—54 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; common fine prominent yellowish brown (10YR 5/6) and common fine and medium faint brown (10YR 5/3) masses of oxidized iron in the matrix; common fine faint gray (2.5Y 5/1) iron depletions in the matrix; 8 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the colluvium: 15 to 40 inches
Depth to carbonates: 24 to 60 inches
Depth to the base of soil development: 30 to 60 inches

Ap or A horizon:
Hue—10YR, 2.5Y, or N
Value—2 to 3
Chroma—0 or 1
Texture—silty clay loam

Bg horizon:
Hue—10YR, 2.5Y, 5Y, 5GY, or N
Value—3 to 6
Chroma—0 to 3
Texture—silty clay loam or silty clay

2Bg horizon:
Hue—2.5Y, 5Y, 5GY, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam

2Cg horizon:
Hue—10YR, 2.5Y, 5Y, 5GY, or N
Value—4 to 6
Chroma—0 to 8
Texture—silty clay loam
Content of rock fragments—less than 10 percent

232A—Ashkum silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Toeslopes

Map Unit Composition

Ashkum and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface soil
- Soils that have stratified outwash in the lower part of the profile
- Soils that are overlain by light-colored recent deposits
- Soils that have less clay and more sand or silt in the subsoil
- Soils that are darker in the upper part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Andres and Elliott soils on summits and footslopes
- The moderately well drained Symerton and Varna soils on summits and backslopes

Properties and Qualities of the Ashkum Soil

Parent material: Colluvium and the underlying till
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 7 percent
Shrink-swell potential: High
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May
Ponding (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Birkbeck Series

Drainage class: Moderately well drained
Landform: Ground moraines and end moraines
Parent material: Loess over till
Slope range: 2 to 5 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

Typical Pedon

Birkbeck silt loam, 2 to 5 percent slopes; at an elevation of 680 feet; 750 feet south and 1,600 feet east of the northwest corner of sec. 25, T. 17 N., R. 3 E.; Macon County, Illinois; USGS Argenta topographic quadrangle; lat. 39 degrees 54 minutes 25.3 seconds N. and long. 88 degrees 48 minutes 59.7 seconds W., NAD 27; UTM Zone 16, 0344720 Easting and 4418800 Northing, NAD 83:

A—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak thin platy structure parting to moderate very fine granular; friable; slightly acid; abrupt smooth boundary.

E—4 to 9 inches; brown (10YR 4/3) silt loam; moderate very thin platy structure; friable; few distinct dark brown (10YR 3/3) organic coatings on faces of peds; few distinct gray (10YR 6/1) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—9 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine subangular blocky structure parting to moderate very fine granular; friable; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; common distinct light gray (10YR 7/1) (dry) silt coatings on faces of peds; few fine irregular weakly cemented iron-manganese nodules throughout; moderately acid; clear smooth boundary.

Bt2—13 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and very fine subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; few fine irregular weakly cemented iron-manganese nodules throughout; moderately acid; clear smooth boundary.

Bt3—24 to 29 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; common fine irregular weakly cemented iron-manganese nodules throughout; moderately acid; clear smooth boundary.

Bt4—29 to 42 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; common medium irregular weakly cemented iron-manganese nodules throughout; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine distinct light yellowish brown (2.5Y 6/4) masses of oxidized iron in the matrix; slightly acid; gradual smooth boundary.

Bt5—42 to 54 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium and coarse subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; common medium irregular weakly cemented iron-manganese nodules throughout; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine distinct light yellowish brown (2.5Y 6/4) and few medium distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

2Bt6—54 to 60 inches; dark yellowish brown (10YR 4/4) loam; weak coarse subangular blocky structure; friable; few distinct brown (7.5YR 4/4) clay films on faces of peds; few distinct very dark grayish brown (10YR 3/2) organo-clay films in pores; few fine irregular weakly cemented iron-manganese nodules throughout; common fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common medium distinct light yellowish brown (2.5Y 6/4) and common fine distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; neutral; gradual smooth boundary.

2C—60 to 68 inches; light olive brown (2.5Y 5/4) loam; massive; firm; few distinct very dark grayish brown (10YR 3/2) organo-clay films in pores; few fine irregular weakly cemented iron-manganese nodules throughout; common fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine faint light

yellowish brown (2.5Y 6/4) and common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the loess: 40 to 60 inches
Depth to carbonates: 40 to 70 inches
Depth to the base of soil development: 40 to 70 inches

Ap or A horizon:
Hue—10YR
Value—2 to 4
Chroma—1 to 3
Texture—silt loam

E horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam

2Bt or 2BC horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 8
Texture—loam

2C horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—loam

233B—Birkbeck silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits, shoulders, and backslopes

Map Unit Composition

Birkbeck and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker and darker surface layer
- Soils that have a seasonal high water table at a depth of 1 to 2 feet
- Soils that have till beginning at a depth of less than 40 inches or more than 60 inches
- Soils that have slopes of less than 2 percent

Dissimilar soils:
- The poorly drained Sable soils on toeslopes

Properties and Qualities of the Birkbeck Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Blount Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 0 to 4 percent
Taxonomic classification: Fine, illitic, mesic Aeric Epiaqualfs

Typical Pedon

Blount silt loam, 0 to 2 percent slopes; at an elevation of 705 feet; 2,480 feet south and 1,203 feet west of the northeast corner of sec. 29, T. 26 N., R. 6 E.; Livingston County, Illinois; USGS Fairbury topographic quadrangle; lat. 40 degrees 41 minutes 36 seconds N. and long. 88 degrees 32 minutes 55 seconds W., NAD 27; UTM Zone 16, 0369163 Easting and 4505880 Northing, NAD 83:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; few fine roots; moderately acid; abrupt smooth boundary.

E—7 to 13 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate thin platy structure; friable; few fine roots; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; abrupt smooth boundary.

2Bt1—13 to 17 inches; brown (10YR 5/3) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common

fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 3 percent gravel; moderately acid; clear smooth boundary.

2Bt2—17 to 26 inches; grayish brown (10YR 5/2) silty clay; weak medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; 3 percent gravel; slightly acid; clear smooth boundary.

2Bt3—26 to 32 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; few very fine roots; common distinct gray (5Y 5/1) clay films on faces of peds; many medium prominent gray (5Y 6/1) iron depletions in the matrix; 3 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2Cd—32 to 60 inches; 60 percent light olive brown (2.5Y 5/4) and 40 percent gray (5Y 6/1) silty clay loam; massive; very firm; common medium prominent white (10YR 8/1) calcium carbonate concretions throughout; 5 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 18 inches
Depth to carbonates: 19 to 40 inches
Depth to the base of soil development: 30 to 48 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—1 to 3
Texture—silt loam

E horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—1 or 2
Texture—silt loam

Bt or 2Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay loam, silty clay, or clay loam
Content of rock fragments—2 to 10 percent

2Cd horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay loam or clay loam
Content of rock fragments—2 to 14 percent

23A—Blount silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and footslopes

Map Unit Composition

Blount and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have less clay and more sand or silt in the subsoil
- Soils that have stratified loamy outwash in the lower part of the profile

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Blount Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 30 to 48 inches to dense material
Available water capacity: About 8.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 0.5 foot to 2.0 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

23B2—Blount silt loam, 2 to 4 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and backslopes

Map Unit Composition

Blount and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that are slightly eroded
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have less clay and more sand or silt in the subsoil

- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have slopes of less than 2 percent

Dissimilar soils:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Blount Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 30 to 48 inches to dense material
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 0.5 foot to 2.0 feet below the surface, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Brenton Series

Drainage class: Somewhat poorly drained
Landform: Outwash plains and stream terraces
Parent material: Loess over stratified loamy outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Brenton silt loam, 0 to 2 percent slopes; at an elevation of 768 feet; 525 feet east and 1,620 feet south of the northwest corner of sec. 15, T. 22 N., R. 6 E; McLean County, Illinois; USGS Bellflower, Illinois, topographic quadrangle; lat. 40 degrees 21 minutes 52.8 seconds N. and long. 88 degrees 30 minutes 54.8 seconds W., NAD 27; UTM Zone 16, 0371340 Easting and 4469120 Northing, NAD 83:

Ap1—0 to 8 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many very fine roots throughout; moderately acid; abrupt smooth boundary.
Ap2—8 to 14 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; common very fine roots throughout; few very fine tubular pores; moderately acid; abrupt smooth boundary.
Bt1—14 to 17 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots along faces of peds; few very fine

tubular pores; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine iron-manganese concretions and stains throughout; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

Bt2—17 to 22 inches; olive brown (2.5Y 4/4) silty clay loam; weak fine prismatic structure parting to moderate medium angular blocky; friable; common very fine and few fine roots along faces of peds; few very fine and fine tubular pores; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few fine iron-manganese concretions and stains throughout; few fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Bt3—22 to 28 inches; olive brown (2.5Y 4/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular blocky; friable; common very fine and few fine roots along faces of peds; few very fine and fine tubular pores; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few fine iron-manganese concretions and stains throughout; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; few fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

Bt4—28 to 33 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate medium prismatic structure parting to strong medium subangular blocky; friable; common very fine and few fine roots along faces of peds; few very fine tubular pores; few distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine iron-manganese concretions and stains throughout; common fine and medium distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

2Bt5—33 to 45 inches; olive brown (2.5Y 4/4), stratified loam and fine sandy loam; moderate medium and coarse subangular blocky structure; friable; few very fine roots along faces of peds; few very fine tubular pores; many distinct very dark grayish brown (2.5Y 3/2) organo-clay films lining root channels; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine iron-manganese concretions and stains throughout; few fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; common fine and medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

2BC—45 to 54 inches; light olive brown (2.5Y 5/6) and light brownish gray (2.5Y 6/2) loam; weak medium subangular blocky structure; friable; few very fine roots along faces of peds; few very fine tubular pores; many distinct very dark grayish brown (2.5Y 3/2) organo-clay films lining root channels and pores; common fine iron-manganese concretions and stains throughout; neutral; clear smooth boundary.

2Cg1—54 to 69 inches; gray (2.5Y 6/1) silt loam; weak thick and very thick platy rock structure; very friable; few very fine roots throughout; many very fine horizontal tubular pores between plates and few very fine vertical tubular pores through the plates; many very dark grayish brown (2.5Y 3/2) organo-clay films lining root channels and pores; common very fine and fine prominent black (10YR 2/1) masses of manganese accumulation in the matrix; common fine and medium prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.

2Cg2—69 to 80 inches; gray (2.5Y 6/1) silt; massive; very friable; few very fine roots throughout; few very fine tubular pores; common fine and medium prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation in the matrix; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess: 24 to 40 inches
Depth to carbonates: More than 40 inches
Depth to the base of soil development: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam

2Bt or 2BC horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 to 8
Texture—loam or stratified loam to fine sandy loam
Content of rock fragments—0 to 5 percent

2Cg or 2C horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 to 8
Texture—stratified silt loam to silt
Content of rock fragments—less than 15 percent

149A—Brenton silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and footslopes

Map Unit Composition

Brenton and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have till in the lower part of the profile
- Soils that have outwash beginning at a depth of less than 24 inches or more than 40 inches
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The well drained Proctor soils on summits and backslopes

Properties and Qualities of the Brenton Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Bryce Series

Drainage class: Poorly drained
Landform: Ground moraines and glacial lakes (relict)
Parent material: Colluvium and the underlying till
Slope range: 0 to 2 percent
Taxonomic classification: Fine, mixed, superactive, mesic Vertic Endoaquolls

Typical Pedon

Bryce silty clay, 0 to 2 percent slopes; at an elevation of 675 feet; 2,559 feet north and 45 feet west of the center of sec. 7, T. 25 N., R. 13 W.; Iroquois County, Illinois; USGS Woodworth topographic quadrangle; lat. 40 degrees 38 minutes 39 seconds N. and long. 87 degrees 52 minutes 23 seconds W., NAD 27; UTM Zone 16, 0426178 Easting and 4499628 Northing, NAD 83:

Ap1—0 to 10 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; weak very fine granular structure; friable; few fine black (7.5YR 2.5/1) weakly cemented iron-manganese oxide nodules throughout; slightly acid; abrupt smooth boundary.

Ap2—10 to 13 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate medium angular blocky structure; friable; moderately acid; abrupt smooth boundary.

Bg—13 to 19 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; firm; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine distinct dark grayish brown (2.5Y 4/2) and few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear wavy boundary.

Btg1—19 to 24 inches; dark grayish brown (2.5Y 4/2) silty clay; weak medium prismatic structure parting to moderate fine and medium subangular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many distinct black

(N 2.5/) organo-clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear wavy boundary.

Btg2—24 to 35 inches; olive gray (5Y 5/2) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common distinct olive gray (5Y 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few slickensides on faces of peds; common fine black (7.5YR 2.5/1) weakly cemented iron-manganese oxide nodules throughout; common fine faint dark gray (2.5Y 4/1) iron depletions in the matrix; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; neutral; gradual smooth boundary.

Btg3—35 to 45 inches; gray (5Y 5/1) silty clay; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; few fine roots; few distinct dark gray (5Y 4/1) clay films on faces of peds; few slickensides and pressure faces on faces of peds; common medium prominent light olive brown (2.5Y 5/4) and few medium prominent dark yellowish brown (10YR 4/4) masses of iron-manganese accumulation in the matrix; slightly alkaline; clear smooth boundary.

2BCg—45 to 58 inches; gray (5Y 5/1) silty clay; weak very coarse prismatic structure; very firm; common coarse prominent brown (10YR 4/3) and common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine white (10YR 8/1) very weakly cemented calcium carbonate nodules and weakly cemented calcium carbonate concretions throughout; 1 percent fine gravel; slightly effervescent; moderately alkaline; clear smooth boundary.

2Cg—58 to 66 inches; gray (5Y 5/1) silty clay; massive; very firm; many medium prominent olive brown (2.5Y 4/4) masses of iron-manganese accumulation in the matrix; 3 percent fine gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the colluvium: 15 to 55 inches
Depth to the base of soil development: 30 to more than 60 inches

Ap or A horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 or 1
Texture—silty clay

Bg, Btg, or BCg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 6
Chroma—0 to 3
Texture—silty clay or clay

2BCg horizon:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay or clay

2Cg horizon:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silty clay, clay, or silty clay loam

235A—Bryce silty clay, 0 to 2 percent slopes

Setting

Landform: Ground moraines and glacial lakes (relict)
Position on the landform: Toeslopes

Map Unit Composition

Bryce and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have till beginning at a depth of more than 55 inches
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have less clay and more silt in the subsoil
- Soils that are overlain by light-colored recent deposits

Dissimilar soils:
- The very poorly drained Rantoul soils on toeslopes
- The somewhat poorly drained Mokena and Swygert soils on summits and footslopes

Properties and Qualities of the Bryce Soil

Parent material: Colluvium and the underlying till
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 7 percent
Shrink-swell potential: High
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May
Ponding (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Camden Series

Drainage class: Well drained
Landform: Outwash plains and stream terraces
Parent material: Loess or other silty material and the underlying outwash
Slope range: 2 to 5 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Camden silt loam, 2 to 5 percent slopes; at an elevation of 720 feet; 30 feet north and 100 feet west of the southeast corner of sec. 6, T. 22 N., R. 14 W.; Champaign County, Illinois; USGS Rankin topographic quadrangle; lat. 40 degrees 23 minutes 06 seconds N. and long. 87 degrees 58 minutes 16 seconds W., NAD 27; UTM Zone 16, 0417570 Easting and 4470946 Northing, NAD 83:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine and very fine granular structure; friable; neutral; abrupt smooth boundary.

E—9 to 14 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate thin platy structure; friable; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; neutral; abrupt smooth boundary.

Bt1—14 to 18 inches; yellowish brown (10YR 5/4) silt loam; weak very fine subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; neutral; clear smooth boundary.

Bt2—18 to 22 inches; yellowish brown (10YR 5/4) silt loam; moderate fine subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; slightly acid; clear smooth boundary.

Bt3—22 to 28 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; few fine rounded black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; moderately acid; clear smooth boundary.

Bt4—28 to 35 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; common fine and medium irregular black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; 3 percent, by volume, chert pebbles; moderately acid; clear smooth boundary.

2Bt5—35 to 52 inches; yellowish brown (10YR 5/6) loam; moderate coarse prismatic structure parting to weak medium subangular blocky; friable; common distinct brown (10YR 4/3) clay films on faces of peds; common fine and medium irregular black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; few fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; 5 percent, by volume, chert and quartz pebbles; moderately acid; clear smooth boundary.

2Bt6—52 to 62 inches; brown (10YR 4/3) and yellowish brown (10YR 5/4) sandy loam; weak coarse prismatic structure parting to weak medium subangular blocky; friable; few faint brown (10YR 4/3) clay bridges between sand grains; few fine rounded black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; few fine faint brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; 5 percent, by volume, chert and quartz pebbles; moderately acid; clear smooth boundary.

2C—62 to 80 inches; yellowish brown (10YR 5/4 and 5/6), stratified sandy loam, loam, and sandy clay loam; massive; very friable; moderately acid.

Range in Characteristics

Thickness of the loess or other silty material: 24 to 40 inches
Depth to carbonates: More than 60 inches
Depth to the base of soil development: 40 to 65 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5

Chroma—2 or 3
Texture—silt loam

E horizon:
Hue—10YR
Value—4 to 6
Chroma—2 or 3
Texture—silt loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, loam, or sandy loam
Content of rock fragments—less than 10 percent

2C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified silt loam to loamy sand
Content of rock fragments—less than 13 percent

134B—Camden silt loam, 2 to 5 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and backslopes

Map Unit Composition

Camden and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have till in the lower part of the profile
- Soils that have outwash beginning at a depth of less than 24 inches or more than 40 inches
- Soils that have slopes of less than 2 percent
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The somewhat poorly drained Kendall and Starks soils on footslopes and summits

Properties and Qualities of the Camden Soil

Parent material: Loess or other silty material and the underlying outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Catlin Series

Drainage class: Moderately well drained
Landform: Ground moraines and end moraines
Parent material: Loess over loamy till
Slope range: 2 to 5 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls

Typical Pedon

Catlin silt loam, 2 to 5 percent slopes; at an elevation of 750 feet; 287 feet north and 1,362 feet east of the southwest corner of sec. 20, T. 19 N., R. 9 E.; Champaign County, Illinois; USGS Urbana topographic quadrangle; lat. 40 degrees 05 minutes 03 seconds N. and long. 88 degrees 12 minutes 50 seconds W., NAD 27; UTM Zone 16, 0396505 Easting and 4437809 Northing, NAD 83:

Ap—0 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.

Bt1—11 to 15 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine and fine subangular blocky structure; friable; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bt2—15 to 22 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.

Bt3—22 to 30 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

Bt4—30 to 45 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak coarse subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; common prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels; common fine irregular black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; few fine distinct strong

brown (7.5YR 4/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

2Bt5—45 to 57 inches; light olive brown (2.5Y 5/4) clay loam; weak coarse subangular blocky structure; firm; common distinct brown (10YR 4/3) clay films on faces of peds; common prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels; common fine irregular black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; common fine distinct light olive gray (5Y 6/2) iron depletions in the matrix; few fine prominent strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; neutral; clear wavy boundary.

2C—57 to 70 inches; light olive brown (2.5Y 5/4) loam; massive; firm; common prominent very dark grayish brown (10YR 3/2) clay films lining root channels; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess: 40 to 60 inches
Depth to carbonates: 40 to 60 inches
Depth to the base of soil development: 45 to 65 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt or BA horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—3 or 4
Texture—silty clay loam or silt loam

2Bt or 2BC horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 or 5
Chroma—2 to 8
Texture—clay loam, silty clay loam, or loam
Content of rock fragments—less than 10 percent

2C horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 or 5
Chroma—2 to 8
Texture—loam, clay loam, or silty clay loam
Content of rock fragments—less than 10 percent

171B—Catlin silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and backslopes

Map Unit Composition

Catlin and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface soil
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have till at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of 1 to 2 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Catlin Soil

Parent material: Loess over loamy till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Chatsworth Series

Drainage class: Moderately well drained
Landform: End moraines and ground moraines
Parent material: Till
Slope range: 6 to 12 percent
Taxonomic classification: Fine, illitic, mesic Oxyaquic Eutrudepts

Typical Pedon

Chatsworth silty clay, 6 to 12 percent slopes, severely eroded; at an elevation of 735 feet; 148 feet north and 1,870 feet west of the southeast corner of sec. 7, T. 24 N., R. 10 E.; Iroquois County, Illinois; USGS Buckley topographic quadrangle; lat. 40 degrees 32 minutes 48 seconds N. and long. 88 degrees 06 minutes 20 seconds W., NAD 27; UTM Zone 16, 0406382 Easting and 4489026 Northing, NAD 83:

Ap—0 to 2 inches; dark grayish brown (2.5Y 4/2) silty clay, light brownish gray (10YR 6/2) dry; moderate medium granular structure; firm; common medium roots; slightly effervescent; moderately alkaline; abrupt smooth boundary.

Bw—2 to 11 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate very fine and fine subangular blocky structure; firm; few medium and fine roots; few fine distinct olive brown (2.5Y 4/4) masses of oxidized iron and manganese in the matrix;

common fine faint dark gray (5Y 4/1) iron depletions in the matrix; few fine white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; strongly effervescent; moderately alkaline; clear wavy boundary.

Bt1—11 to 15 inches; dark grayish brown (2.5Y 4/2) silty clay; weak medium prismatic structure parting to moderate fine and medium angular blocky; very firm; few fine roots between peds; common faint dark gray (5Y 4/1) clay films on faces of peds; common fine distinct olive brown (2.5Y 4/4) masses of oxidized iron and manganese in the matrix; common fine faint dark gray (5Y 4/1) iron depletions in the matrix; common medium white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; strongly effervescent; moderately alkaline; gradual wavy boundary.

Bt2—15 to 22 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium prismatic structure parting to weak medium subangular blocky; very firm; few fine roots between peds; common faint dark gray (5Y 4/1) clay films on faces of peds; common fine distinct olive brown (2.5Y 4/4) masses of oxidized iron and manganese in the matrix; common fine faint dark gray (5Y 4/1) iron depletions in the matrix; common medium white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; strongly effervescent; moderately alkaline; gradual wavy boundary.

Cd1—22 to 35 inches; dark grayish brown (2.5Y 4/2) silty clay; massive with evidence of vertical cleavage; very firm; few fine roots along cleavage planes; many faint gray (5Y 5/1) pressure faces along vertical cleavage planes; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many fine faint gray (5Y 5/1) iron depletions in the matrix; few medium white (10YR 8/1) very weakly cemented calcium carbonate nodules along cleavage planes; strongly effervescent; moderately alkaline; gradual wavy boundary.

Cd2—35 to 60 inches; dark gray (5Y 4/1) silty clay; massive with evidence of vertical cleavage; very firm; very few fine roots along widely spaced vertical cleavage planes; many faint gray (5Y 5/1) pressure faces along vertical cleavage planes; few medium white (10YR 8/1) very weakly cemented calcium carbonate nodules along vertical cleavage planes; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to carbonates: Less than 20 inches
Depth to the base of soil development: 10 to 24 inches

Ap or A horizon:
Hue—10YR, 2.5Y, or 5Y
Value—3 or 4
Chroma—1 or 2
Texture—silty clay
Content of rock fragments—less than 3 percent

Bw or Bt horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—2 or 3
Texture—silty clay, clay, or silty clay loam
Content of rock fragments—less than 3 percent

Cd horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—1 to 6
Texture—silty clay, clay, or silty clay loam
Content of rock fragments—less than 10 percent

241D3—Chatsworth silty clay, 6 to 12 percent slopes, severely eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Chatsworth and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that are moderately eroded
- Soils that have slopes of less than 6 percent
- Soils that have carbonates beginning at a depth of more than 20 inches
- Soils that have less clay and more silt or sand throughout the profile

Dissimilar soils:
- The poorly drained Bryce soils on toeslopes
- The nearly level and gently sloping, somewhat poorly drained Clarence and Swygert soils on summits, backslopes, and footslopes

Properties and Qualities of the Chatsworth Soil

Parent material: Till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 10 to 24 inches to dense material
Available water capacity: About 3.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Clarence Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines
Parent material: Till
Slope range: 0 to 6 percent

Taxonomic classification: Fine, illitic, mesic Aquic Argiudolls
Taxadjunct features: The Clarence soils in map units 147B2 and 147C2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as fine, illitic, mesic Aquollic Hapludalfs.

Typical Pedon

Clarence silty clay loam, 0 to 2 percent slopes; at an elevation of 770 feet; 480 feet south and 1,590 feet east of the northwest corner of sec. 21, T. 24 N., R. 10 E.; Iroquois County, Illinois; USGS Buckley topographic quadrangle; lat. 40 degrees 31 minutes 49 seconds N. and long. 88 degrees 04 minutes 25 seconds W., NAD 27; UTM Zone 16, 0409054 Easting and 4487191 Northing, NAD 83:

Ap—0 to 7 inches; very dark gray (10YR 3/1) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate fine and medium granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.
A—7 to 11 inches; very dark grayish brown (10YR 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate fine and medium granular structure; friable; many fine roots; very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; clear smooth boundary.
Btg1—11 to 16 inches; dark grayish brown (2.5Y 4/2) silty clay; weak fine subangular blocky structure; firm; common fine roots; common distinct dark grayish brown (10YR 4/2) clay films and very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.
Btg2—16 to 24 inches; dark grayish brown (2.5Y 4/2) clay; moderate medium angular blocky structure; firm; few fine roots; many distinct dark grayish brown (10YR 4/2) clay films and few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; many fine distinct light olive brown (2.5Y 5/4) and common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.
Btg3—24 to 29 inches; grayish brown (2.5Y 5/2) silty clay; weak medium prismatic structure parting to moderate medium angular blocky; firm; few fine roots; many distinct dark gray (10YR 4/1) clay films on faces of peds; few distinct very dark gray (5Y 3/1) organo-clay films along root channels; few fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; very dark gray (10YR 3/1) krotovina; common fine prominent yellowish brown (10YR 5/6) and distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; 3 percent gravel; slightly alkaline; clear smooth boundary.
BCtg—29 to 39 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate medium prismatic structure; very firm; few fine roots; few faint dark gray (10YR 4/1) clay films on faces of peds; few faint very dark gray (10YR 3/1) organo-clay films along root channels; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine distinct gray (10YR 6/1) iron depletions in the matrix; common medium white (10YR 8/1) soft masses of calcium carbonate throughout; 1 percent gravel; slightly effervescent; moderately alkaline; gradual wavy boundary.
Cdg—39 to 60 inches; variegated dark grayish brown (2.5Y 4/2), light olive brown (2.5Y 5/4), and gray (5Y 5/1) silty clay; massive with evidence of horizontal cleavage; very firm; few distinct calcium carbonate coatings on horizontal cleavage planes; common medium white (10YR 8/1) soft masses of calcium carbonate throughout; 2 percent gravel; strongly effervescent (18 percent calcium carbonate equivalent); moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon or dark surface layer: 7 to 20 inches
Depth to carbonates: 20 to 38 inches
Depth to the base of soil development: 25 to 40 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silty clay loam

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—1 to 6
Texture—silty clay or clay

BC or BCtg horizon:
Hue—2.5Y or 5Y
Value—4 or 5
Chroma—2 to 4
Texture—silty clay or clay
Content of rock fragments—less than 5 percent

Cd or Cdg horizon:
Hue—2.5Y, 5Y, or 5GY
Value—4 to 6
Chroma—1 to 6
Texture—silty clay or clay
Content of rock fragments—less than 5 percent

147A—Clarence silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and footslopes

Map Unit Composition

Clarence and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner surface soil
- Soils that are more than 40 inches deep to the base of soil development
- Soils that have less clay and more silt or sand in the subsoil
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The poorly drained Rowe soils on toeslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes

Properties and Qualities of the Clarence Soil

Parent material: Till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Impermeable

Permeability below a depth of 60 inches: Impermeable or very slow
Depth to restrictive feature: 25 to 40 inches to dense material
Available water capacity: About 5.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

147B2—Clarence silty clay loam, 2 to 4 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes and footslopes

Map Unit Composition

Clarence and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker surface soil
- Soils that are more than 40 inches deep to the base of soil development
- Soils that have less clay and more silt or sand in the subsoil
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar soils:
- The poorly drained Rowe soils on toeslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- Soils that are severely eroded

Properties and Qualities of the Clarence Soil

Parent material: Till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Impermeable
Permeability below a depth of 60 inches: Impermeable or very slow
Depth to restrictive feature: 25 to 40 inches to dense material
Available water capacity: About 4.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Moderate

Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

147C2—Clarence silty clay loam, 4 to 6 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes and shoulders

Map Unit Composition

Clarence and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay and more silt or sand in the subsoil
- Soils that have slopes of less than 4 percent
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that are more than 40 inches deep to the base of soil development

Dissimilar soils:
- The poorly drained Rowe soils on toeslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- Soils that are severely eroded

Properties and Qualities of the Clarence Soil

Parent material: Till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Impermeable
Permeability below a depth of 60 inches: Impermeable or very slow
Depth to restrictive feature: 25 to 40 inches to dense material
Available water capacity: About 4.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Dana Series

Drainage class: Moderately well drained
Landform: Ground moraines
Parent material: Loess over till
Slope range: 2 to 5 percent slopes
Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Taxadjunct features: The Dana soils in this survey area have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs.

Typical Pedon

Dana silt loam, 2 to 5 percent slopes, eroded; at an elevation of 720 feet; 924 feet south and 152 feet east of the northwest corner of sec. 9, T. 21 N., R. 2 E; McLean County, Illinois; USGS Heyworth, Illinois, topographic quadrangle; lat. 40 degrees 17 minutes 40.1 seconds N. and long. 88 degrees 59 minutes 48 seconds W., NAD 27; UTM Zone 16, 0330290 Easting and 4462130 Northing, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam mixed with dark yellowish brown (10YR 4/4) subsoil material; weak medium subangular blocky structure; friable; slightly acid; abrupt smooth boundary.

Bt1—7 to 11 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; common distinct very dark grayish brown (10YR 3/2) and dark brown (10YR 3/3) organo-clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—11 to 19 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common distinct dark brown (10YR 3/3) organo-clay films and brown (10YR 4/3) clay films on faces of peds; few fine iron-manganese concretions and stains throughout; moderately acid; clear smooth boundary.

Bt3—19 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; few fine iron-manganese stains and concretions throughout; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine distinct grayish brown (10YR 5/2) and few fine faint brown (10YR 5/3) iron depletions in the matrix; slightly acid; abrupt smooth boundary.

2Bt4—34 to 44 inches; light olive brown (2.5Y 5/4) clay loam; weak medium prismatic structure parting to weak medium and coarse subangular blocky; friable; few distinct brown (10YR 4/3) clay films on faces of peds; few fine iron-manganese concretions and stains throughout; few fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; 3 percent fine gravel; neutral; clear smooth boundary.

2BC—44 to 53 inches; light olive brown (2.5Y 5/4) clay loam; weak medium prismatic structure parting to weak coarse subangular blocky; friable; few fine iron-

manganese concretions and stains throughout; few fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; 3 percent fine gravel; slightly effervescent; slightly alkaline; gradual smooth boundary.

2C—53 to 60 inches; light olive brown (2.5Y 5/4) loam; massive; firm; few fine iron-manganese oxide concretions and stains throughout; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common fine and medium distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; 4 percent fine gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the dark surface layer: 7 to 9 inches
Thickness of the loess: 22 to 40 inches
Depth to carbonates: 40 to 60 inches
Depth to the base of soil development: 36 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam

2Bt horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—clay loam
Content of rock fragments—0 to 7 percent

2BC or 2C horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—loam or clay loam
Content of rock fragments—0 to 15 percent

56B2—Dana silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Summits and backslopes

Map Unit Composition

Dana and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that are slightly eroded
- Soils that have stratified loamy outwash in the lower part of the profile

- Soils that have till beginning at a depth of less than 22 inches or more than 40 inches
- Soils that have a seasonal high water table at a depth of 1 to 2 feet

Dissimilar soils:

- The poorly drained Drummer and Sable soils on toeslopes

Properties and Qualities of the Dana Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through March
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Dozaville Series

Drainage class: Well drained
Landform: Flood plains
Parent material: Silty alluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Fluventic Hapludolls

Typical Pedon

Dozaville silt loam, 0 to 2 percent slopes, occasionally flooded; at an elevation of 140 feet; 1,240 feet west and 1,680 feet south of the northeast corner of sec. 28, T. 6 S., R. 5 W.; Pike County, Illinois; USGS Summer Hill, Illinois, topographic quadrangle; lat. 39 degrees 30 minutes 52 seconds N. and long. 90 degrees 58 minutes 43 seconds W., NAD 27; UTM Zone 15, 0673756 Easting and 4375823 Northing, NAD 83:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many fine and medium roots; neutral; abrupt smooth boundary.

A—8 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many fine and medium roots; neutral; clear smooth boundary.

AB—13 to 18 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine subangular blocky structure; friable; many fine and medium roots;

common distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores and on faces of peds; slightly acid; clear smooth boundary.

Bw1—18 to 30 inches; brown (10YR 4/3) silt loam; moderate fine subangular blocky structure; friable; many fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores and on faces of peds; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bw2—30 to 59 inches; brown (10YR 4/3) silt loam; moderate fine subangular blocky structure; friable; common fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores and on faces of peds; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bw3—59 to 69 inches; brown (10YR 4/3) loam; weak medium subangular blocky structure; friable; few fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores and on faces of peds; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.

BC—69 to 80 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse subangular blocky structure; friable; few fine roots; very few distinct dark brown (10YR 3/3) organic coatings in root channels and pores; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to the base of soil development: 35 to more than 80 inches

Ap, A, or AB horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 or 4
Texture—silt loam; silt loam or loam in the lower part

BC horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 or 4
Texture—silt loam or loam

2C horizon (where present):
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—2 to 4
Texture—loamy fine sand, loamy very fine sand, very fine sand, or fine sand

8674A—Dozaville silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Dozaville and similar soils: 85 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface soil
- Soils that have less silt and more sand in the subsoil
- Soils that are subject to rare flooding
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

Dissimilar soils:
- The somewhat poorly drained Shaffton soils on flood plains

Properties and Qualities of the Dozaville Soil

Parent material: Silty alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Low
Ponding: None
Flooding (frequency, months): Occasional, November through June
Potential for frost action: High
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Drummer Series

Drainage class: Poorly drained
Landform: Outwash plains and ground moraines
Parent material: Loess over stratified loamy outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Drummer silty clay loam, 0 to 2 percent slopes; at an elevation of 715 feet; 300 feet north and 1,600 feet east of the southwest corner of sec. 19, T. 19 N., R. 9 E.; Champaign County, Illinois; USGS Urbana topographic quadrangle; lat. 40 degrees 05 minutes 04 seconds N. and long. 88 degrees 13 minutes 58 seconds W., NAD 27; UTM Zone 16, 0394899 Easting and 4437858 Northing, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; many fine roots; moderately acid; clear smooth boundary.

A—7 to 14 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure parting to weak fine granular; firm; many fine and medium roots; slightly acid; clear smooth boundary.

BA—14 to 19 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate fine and medium subangular blocky structure; firm; many fine and medium roots; few fine faint very dark grayish brown (2.5Y 3/2) masses of oxidized iron and manganese in the matrix; slightly acid; gradual smooth boundary.

Bg—19 to 25 inches; dark gray (10YR 4/1) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; many fine roots; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many worm holes; neutral; gradual smooth boundary.

Btg1—25 to 32 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine and medium prismatic structure parting to moderate fine angular blocky; firm; many fine roots; common distinct dark gray (N 4/) clay films on faces of peds; many medium distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; neutral; gradual wavy boundary.

Btg2—32 to 41 inches; gray (N 5/) silty clay loam; weak medium prismatic structure parting to weak medium angular blocky; firm; few fine roots; few distinct dark gray (N 4/) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; neutral; clear wavy boundary.

2Btg3—41 to 47 inches; gray (N 5/) loam; weak coarse subangular blocky structure; friable; few fine roots; few distinct dark gray (10YR 4/1) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 4 percent fine gravel; neutral; abrupt wavy boundary.

2Cg—47 to 60 inches; dark gray (10YR 4/1), stratified loam and sandy loam; massive; friable; many medium prominent olive brown (2.5Y 4/4) masses of oxidized iron and manganese in the matrix; many medium distinct gray (N 5/) iron depletions in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the loess: 40 to 60 inches
Depth to carbonates: More than 40 inches
Depth to the base of soil development: 40 to 65 inches

Ap or A horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam

BA, Bg, or Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 4
Texture—silty clay loam

2Btg, 2Bg, or 2BCg horizon:
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—loam

2Cg or 2C horizon:
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—4 to 7

Chroma—0 to 8
Texture—stratified loam to sandy loam

152A—Drummer silty clay loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

Drummer and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or thicker surface soil
- Soils that have less clay and more silt in the surface soil
- Soils that have till in the lower part of the profile
- Soils that have carbonates at a depth of less than 40 inches

Dissimilar soils:
- The somewhat poorly drained Brenton, Elburn, and Flanagan soils on summits
- The moderately well drained Catlin and Dana soils on summits and backslopes

Properties and Qualities of the Drummer Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 7.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May
Ponding (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

536—Dumps, mine

This map unit consists of nearly level to very steep accumulations of industrial refuse, slag, and mine spoil. Most areas of industrial refuse and slag are in the urbanized east-central part of the county. Mine spoil, which is mainly in the southern

part of the county, is derived from the washing and separation of coal. It consists of shale and coal fragments and sandstone cobbles. Mine spoil is very acidic and supports little or no vegetation.

Map Unit Composition

Dumps, mine: 95 percent
Dissimilar components: 5 percent

Components of Minor Extent

Dissimilar components:
- The well drained, loamy Orthents on summits and backslopes
- Areas of undisturbed soils along the edge of the refuse accumulations
- Small areas of water, some of which are acidic

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Elburn Series

Drainage class: Somewhat poorly drained
Landform: Outwash plains and stream terraces
Parent material: Loess over stratified loamy outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Elburn silt loam, 0 to 2 percent slopes; at an elevation of 617 feet; 2,716 feet north and 1,300 feet west of the southeast corner of sec. 36, T. 14 N., R. 1 E.; Christian County, Illinois; USGS Assumption, Illinois, topographic quadrangle; lat. 39 degrees 37 minutes 04.7 seconds N. and long. 89 degrees 01 minute 45.8 seconds W., NAD 27; UTM Zone 16, 0325797 Easting and 4387329 Northing, NAD 83:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; few very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

A—6 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.

Bt1—16 to 21 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films and dark gray (10YR 4/1) clay films on faces of peds; few fine iron-manganese concretions throughout; few fine faint brown (10YR 5/3) masses of oxidized iron and manganese and few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

Bt2—21 to 28 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organo-clay films and common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine iron-manganese concretions throughout; few fine faint

grayish brown (10YR 5/2) iron depletions and few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bt3—28 to 36 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organo-clay films and dark gray (10YR 4/1) clay films on faces of peds; few fine iron-manganese concretions throughout; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bt4—36 to 43 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; few prominent very dark gray (10YR 3/1) organo-clay films and few distinct brown (10YR 5/3) clay films on faces of peds; few fine iron-manganese concretions throughout; common medium distinct yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Btg—43 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; weak coarse subangular blocky structure; friable; few very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films and dark grayish brown (10YR 4/2) clay films on faces of peds; few fine iron-manganese concretions throughout; many medium prominent brownish yellow (10YR 6/8) and few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

2BCtg—49 to 58 inches; grayish brown (2.5Y 5/2), stratified silt loam, loam, and sandy loam; weak coarse subangular blocky structure; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films and dark grayish brown (10YR 4/2) clay films lining pores; few very fine iron-manganese concretions throughout; common medium prominent brownish yellow (10YR 6/8) and few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

2Cg—58 to 62 inches; grayish brown (2.5Y 5/2), stratified sandy loam and loamy sand; massive; very friable; common medium prominent yellowish brown (10YR 5/8) and brownish yellow (10YR 6/8) masses of oxidized iron in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 19 inches
Thickness of the loess: 40 to 60 inches
Depth to carbonates: More than 40 inches
Depth to the base of soil development: 40 to 70 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt or Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—2 to 4
Texture—silty clay loam or silt loam

2Btg, 2Bt, 2Bg, 2BC, 2BCtg, or 2BCg horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 8
Texture—stratified sandy loam to silt loam

2C or 2Cg horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 8
Texture—stratified sandy loam to loamy sand

198A—Elburn silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and footslopes

Map Unit Composition

Elburn and similar soils: 93 percent
Dissimilar soils: 7 percent

Components of Minor Extent

Similar soils:
- Soils that have till in the lower part of the profile
- Soils that have outwash at a depth of less than 40 inches
- Soils that have a thinner surface soil
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Drummer and Sable soils on toeslopes
- The well drained Plano and Proctor soils on summits and shoulders

Properties and Qualities of the Elburn Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Elliott Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 0 to 6 percent
Taxonomic classification: Fine, illitic, mesic Aquic Argiudolls
Taxadjunct features: The Elliott soils in map units 146B2 and 146C2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as fine, illitic, mesic Aquollic Hapludalfs.

Typical Pedon

Elliott silt loam, 0 to 2 percent slopes; at an elevation of 704 feet; 690 feet south and 2,436 feet west of the center of sec. 21, T. 29 N., R. 8 E.; Livingston County, Illinois; USGS Cullom topographic quadrangle; lat. 40 degrees 58 minutes 12 seconds N. and long. 88 degrees 19 minutes 19 seconds W., NAD 27; UTM Zone 16, 0388762 Easting and 4536262 Northing, NAD 83:

Ap—0 to 6 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.

A—6 to 11 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common fine roots; slightly acid; clear smooth boundary.

Bt1—11 to 16 inches; light olive brown (2.5Y 5/4) silty clay; moderate fine subangular blocky structure; friable; common fine roots; few distinct black (10YR 2/1) organic coatings on faces of peds; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; neutral; clear smooth boundary.

2Bt2—16 to 23 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.

2Bt3—23 to 28 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 1 percent gravel; neutral; clear smooth boundary.

2Bt4—28 to 35 inches; olive brown (2.5Y 4/4) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; few fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few medium white (10YR 8/1) moderately cemented calcium carbonate concretions throughout; 1 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2Bt5—35 to 41 inches; olive brown (2.5Y 4/4) silty clay loam; weak fine prismatic structure parting to moderate medium angular blocky; firm; few fine roots; common distinct gray (5Y 6/1) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.

2Cd—41 to 60 inches; olive brown (2.5Y 4/4) silty clay loam; massive; very firm; common fine prominent gray (5Y 5/1) iron depletions in the matrix; 3 percent pebbles; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon or dark surface layer: 7 to 20 inches
Thickness of the loess or other silty material: Less than 20 inches
Depth to carbonates: 17 to 40 inches
Depth to the base of soil development: 20 to 45 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or silty clay loam

Bt or 2Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silty clay
Content of rock fragments—less than 10 percent

2Cd horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam
Content of rock fragments—less than 15 percent

146A—Elliott silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and footslopes

Map Unit Composition

Elliott and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay and more silt or sand in the subsoil
- Soils that formed in lacustrine sediments
- Soils that have slopes of more than 2 percent
- Soils that have a thinner surface soil

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material

Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

146B2—Elliott silty clay loam, 2 to 4 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes and footslopes

Map Unit Composition

Elliott and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay and more sand or silt in the subsoil
- Soils that formed in lacustrine sediments
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that are slightly eroded
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 6.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: High
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None

Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

146C2—Elliott silty clay loam, 4 to 6 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Elliott and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay and more sand or silt in the subsoil
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have carbonates at a depth of less than 17 inches

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes
- Soils that are severely eroded

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 6.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: High
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Fincastle Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and end moraines
Parent material: Loess over loamy till
Slope range: 0 to 5 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aeric Epiaqualfs

Typical Pedon

Fincastle silt loam, 0 to 2 percent slopes; at an elevation of 673 feet; 2,460 feet north and 1,200 feet west of the southeast corner of sec. 4, T. 18 N., R. 11 W.; Vermilion County, Illinois; USGS Danville Southeast, Illinois, topographic quadrangle; lat. 40 degrees 02 minutes 58 seconds N. and long. 87 degrees 36 minutes 19 seconds W., NAD 27; UTM Zone 16, 0448371 Easting and 4433427 Northing, NAD 83:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; moderately acid; abrupt smooth boundary.

BE—10 to 14 inches; brown (10YR 4/3) silt loam; moderate very fine subangular blocky structure; friable; few faint grayish brown (10YR 5/2) (dry) silt coatings on faces of peds; few fine masses of iron-manganese throughout; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.

Bt1—14 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; many distinct grayish brown (10YR 5/2) and dark grayish brown (10YR 4/2) clay films on faces of peds; few fine masses of iron-manganese throughout; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; gradual smooth boundary.

Bt2—24 to 35 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; many distinct grayish brown (10YR 5/2) and dark grayish brown (10YR 4/2) clay films on faces of peds; common fine masses of iron-manganese throughout; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; clear smooth boundary.

2Bt3—35 to 43 inches; olive brown (2.5Y 4/4) clay loam; moderate medium subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; common fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; 5 percent fine and medium gravel; moderately acid; gradual smooth boundary.

2BC—43 to 49 inches; olive brown (2.5Y 4/4) clay loam; weak medium subangular blocky structure; friable; common distinct very dark grayish brown (10YR 3/2) organic coatings lining pores; common fine distinct light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; common fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; 5 percent fine and medium gravel; very slightly effervescent; slightly alkaline; gradual smooth boundary.

2C—49 to 60 inches; light olive brown (2.5Y 5/4) loam; massive; firm; common fine distinct grayish brown (2.5Y 5/2) iron depletions and few fine distinct light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; 5 percent fine and medium gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the loess: 22 to 40 inches
Depth to carbonates: 35 to 60 inches
Depth to the base of soil development: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam

E or BE horizon:
Hue—10YR
Value—4 to 6
Chroma—2 or 3
Texture—silt loam

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam or silt loam

2Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—clay loam or loam
Content of rock fragments—1 to 7 percent

2BC horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—clay loam or loam
Content of rock fragments—1 to 8 percent

2C horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—loam
Content of rock fragments—2 to 14 percent

496A—Fincastle silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits

Map Unit Composition

Fincastle and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have till beginning at a depth of more than 40 inches
- In the area north of Danville, soils that have less sand and silt and more clay in the lower part of the profile and in which the depth to the base of soil development is less than 40 inches

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Fincastle Soil

Parent material: Loess over loamy till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 0.5 foot to 2.0 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

496B2—Fincastle silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and backslopes

Map Unit Composition

Fincastle and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that are slightly eroded

- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have less sand and more silt in the lower one-half of the profile
- In the area north of Danville, soils that have less sand and silt and more clay in the lower part of the profile and in which the depth to the base of soil development is less than 40 inches

Dissimilar soils:

- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Fincastle Soil

Parent material: Loess over loamy till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 0.5 foot to 2.0 feet below the surface, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Flanagan Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and end moraines
Parent material: Loess over till
Slope range: 0 to 2 percent
Taxonomic classification: Fine, smectitic, mesic Aquic Argiudolls

Typical Pedon

Flanagan silt loam, 0 to 2 percent slopes; at an elevation of 730 feet; 1,405 feet north and 1,607 feet east of the southwest corner of sec. 19, T. 19 N., R. 9 E.; Champaign County, Illinois; USGS Urbana topographic quadrangle; lat. 40 degrees 05 minutes 14 seconds N. and long. 88 degrees 13 minutes 57 seconds W., NAD 27; UTM Zone 16, 0394923 Easting and 4438169 Northing, NAD 83:

A1—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; slightly acid; gradual smooth boundary.

A2—8 to 15 inches; very dark brown (10YR 2/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; slightly acid; clear smooth boundary.

A3—15 to 18 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; slightly acid; clear smooth boundary.

Bt1—18 to 23 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine subangular blocky structure; firm; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine faint brown (10YR 4/3) masses of oxidized iron and manganese in the matrix; moderately acid; clear smooth boundary.

Bt2—23 to 32 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate medium subangular blocky structure; firm; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine faint brown (10YR 5/3 and 4/3) masses of oxidized iron and manganese in the matrix; moderately acid; clear smooth boundary.

Bt3—32 to 38 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine faint light yellowish brown (10YR 6/4) and distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

Bt4—38 to 45 inches; 40 percent yellowish brown (10YR 5/6), 30 percent light brownish gray (10YR 6/2), and 30 percent brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; slightly acid; gradual smooth boundary.

2Bt5—45 to 49 inches; 35 percent yellowish brown (10YR 5/4), 35 percent light olive brown (2.5Y 5/4), and 30 percent light brownish gray (10YR 6/2) silt loam; weak coarse subangular blocky structure; firm; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; 5 percent fine gravel; neutral; abrupt smooth boundary.

2C—49 to 60 inches; yellowish brown (10YR 5/4) loam; massive; firm; common fine and medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; common medium rounded white (10YR 8/1) weakly cemented calcium carbonate nodules throughout; 5 percent fine gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess: 40 to 60 inches
Depth to carbonates: 45 to 65 inches
Depth to the base of soil development: 45 to 65 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 6
Texture—silty clay loam, silt loam, or silty clay

2Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 6

Texture—loam or silt loam
Content of rock fragments—less than 15 percent

2C horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 6
Texture—loam
Content of rock fragments—less than 15 percent

154A—Flanagan silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Flanagan and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have till beginning at a depth of less than 40 inches or more than 60 inches
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have less clay and more silt in the upper part of the subsoil
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Flanagan Soil

Parent material: Loess over till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Harpster Series

Drainage class: Poorly drained
Landform: Outwash plains, lake plains, ground moraines, stream terraces, and depressions
Parent material: Calcareous loess or other silty material over drift
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Calciaquolls

Typical Pedon

Harpster silty clay loam, 0 to 2 percent slopes; at an elevation of 738 feet; 855 feet south and 70 feet west of the northeast corner of sec. 20, T. 23 N., R. 7 E.; Ford County, Illinois; USGS Gibson City West topographic quadrangle; lat. 40 degrees 26 minutes 24 seconds N. and long. 88 degrees 25 minutes 23 seconds W., NAD 27; UTM Zone 16, 0379305 Easting and 4477570 Northing, NAD 83:

Apk—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; many snail shells; strongly effervescent (20 percent calcium carbonate equivalent); moderately alkaline; abrupt smooth boundary.

Ak—9 to 18 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak fine and medium granular structure; firm; common very fine roots; many snail shells; strongly effervescent (18 percent calcium carbonate equivalent); moderately alkaline; clear smooth boundary.

Bg1—18 to 25 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak fine and medium angular blocky structure; firm; common very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few snail shells; common fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; slightly effervescent (7 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.

Bg2—25 to 31 inches; dark gray (5Y 4/1) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular blocky; firm; few very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few snail shells; few fine prominent dark yellowish brown (10YR 4/4) and few fine distinct olive (5Y 4/4) masses of oxidized iron and manganese in the matrix; slightly effervescent (5 percent calcium carbonate equivalent); slightly alkaline; gradual smooth boundary.

Bg3—31 to 36 inches; dark gray (5Y 4/1) silty clay loam; weak coarse prismatic structure parting to weak medium angular blocky; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium distinct olive (5Y 4/4) masses of oxidized iron and manganese and few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; slightly effervescent (2 percent calcium carbonate equivalent); slightly alkaline; gradual smooth boundary.

Bg4—36 to 41 inches; 40 percent olive brown (2.5Y 4/4), 35 percent olive yellow (2.5Y 6/6), and 25 percent gray (5Y 5/1) silty clay loam; weak coarse angular blocky structure; firm; few very fine roots; 2 percent gravel; slightly effervescent (2 percent calcium carbonate equivalent); slightly alkaline; gradual smooth boundary.

Cg1—41 to 56 inches; 55 percent gray (5Y 5/1), 40 percent light olive brown (2.5Y 5/6), and 5 percent dark yellowish brown (10YR 4/4) silt loam; massive; firm; 1 percent gravel; strongly effervescent (16 percent calcium carbonate equivalent); moderately alkaline; clear smooth boundary.

2Cg2—56 to 60 inches; gray (10YR 5/1) loam; massive; friable; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the loess or other silty material: 36 to 60 inches
Depth to carbonates: Less than 16 inches
Depth to the base of soil development: 22 to 46 inches

Apk or Ak horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 or 1
Texture—silty clay loam

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam

Cg or 2Cg horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silt loam or loam

67A—Harpster silty clay loam, 0 to 2 percent slopes

Setting

Landform: Depressions, stream terraces, lake plains, ground moraines, and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

Harpster and similar soils: 97 percent
Dissimilar soils: 3 percent

Components of Minor Extent

Similar soils:
- Soils that do not have carbonates within a depth of 16 inches
- Soils that have less silt and more sand or clay in the subsoil
- Soils that have less clay and more silt in the surface layer

Dissimilar soils:
- The somewhat poorly drained Brenton, Elburn, and Flanagan soils on summits

Properties and Qualities of the Harpster Soil

Parent material: Calcareous loess or other silty material over drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May

Ponding (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Haskins Series

Drainage class: Somewhat poorly drained
Landform: Outwash plains and ground moraines
Parent material: Loamy outwash and the underlying till
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Aeric Epiaqualfs

Typical Pedon

Haskins loam, 0 to 2 percent slopes; at an elevation of 660 feet; 1,680 feet west and 2,800 feet south of the northeast corner of sec. 12, T. 20 N., R. 12 W.; Vermilion County, Illinois; USGS Danville NW topographic quadrangle; lat. 40 degrees 12 minutes 38 seconds N. and long. 87 degrees 39 minutes 57 seconds W., NAD 27; UTM Zone 16, 0443348 Easting and 4451339 Northing, NAD 83:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; 1 percent fine gravel; neutral; abrupt smooth boundary.

E—9 to 13 inches; grayish brown (10YR 5/2) loam, light gray (10YR 7/2) dry; weak fine subangular blocky structure; friable; many distinct dark grayish brown (10YR 4/2) organic coatings on faces of peds; common fine distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; 1 percent fine gravel; slightly acid; clear smooth boundary.

Bt1—13 to 20 inches; brown (10YR 4/3) clay loam; moderate fine subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine rounded iron-manganese oxide concretions throughout; common fine distinct dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 1 percent fine gravel; slightly acid; gradual smooth boundary.

Bt2—20 to 30 inches; brown (10YR 4/3) clay loam; moderate medium subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films and few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine rounded iron-manganese concretions throughout; common fine distinct dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; many fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 1 percent fine gravel; slightly acid; gradual smooth boundary.

Bt3—30 to 39 inches; brown (10YR 4/3) clay loam; moderate medium subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films and common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine rounded iron-manganese concretions throughout; many

fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 1 percent fine gravel; moderately acid; clear smooth boundary.

2Bt4—39 to 48 inches; olive brown (2.5Y 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few distinct dark grayish brown (2.5Y 4/2) clay films and common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine rounded iron-manganese concretions throughout; many fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine distinct light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; 5 percent fine gravel; neutral; gradual smooth boundary.

2BCt—48 to 61 inches; light olive brown (2.5Y 5/3) silty clay loam; weak coarse subangular blocky structure; very firm; few faint grayish brown (2.5Y 5/2) clay films and few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; few fine distinct light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; 5 percent fine gravel; slightly effervescent; slightly alkaline; gradual smooth boundary.

2C—61 to 78 inches; light olive brown (2.5Y 5/3) silty clay loam; massive; very firm; few distinct grayish brown (2.5Y 5/2) pressure faces on vertical faces of peds; common fine distinct gray (2.5Y 6/1) iron depletions in the matrix; few fine faint light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; few fine irregular carbonate concretions throughout; 5 percent fine gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to till: 20 to 40 inches
Depth to the base of soil development: 25 to 50 inches

Ap or A horizon:
Hue—10YR
Value—4
Chroma—1 or 2
Texture—loam

E horizon:
Hue—10YR
Value—5 or 6
Chroma—2 or 3
Texture—loam

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—clay loam, sandy clay loam, or loam

2Bt or 2BCt horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—1 to 4
Texture—silty clay loam

2C horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 or 5
Chroma—0 to 4
Texture—silty clay loam or silt loam

758A—Haskins loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and outwash plains
Position on the landform: Summits and footslopes

Map Unit Composition

Haskins and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have less sand and more silt in the subsoil
- Soils that have till beginning at a depth of less than 20 inches or more than 40 inches

Dissimilar soils:
- The poorly drained Ashkum and Drummer soils on toeslopes
- The well drained Martinsville soils on summits and backslopes

Properties and Qualities of the Haskins Soil

Parent material: Loamy outwash over till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 0.5 foot to 2.0 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

Ipava Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines
Parent material: Loess
Slope range: 0 to 2 percent
Taxonomic classification: Fine, smectitic, mesic Aquic Argiudolls

Typical Pedon

Ipava silt loam, 0 to 2 percent slopes; at an elevation of 804 feet; 2,046 feet west and 594 feet north of the southeast corner of sec. 25, T. 13 N., R. 2 E.; Knox County, Illinois; USGS Oneida topographic quadrangle; lat. 41 degrees 04 minutes 40 seconds N. and long. 90 degrees 13 minutes 03 seconds W., NAD 27; UTM Zone 15, 0733740 Easting and 4551126 Northing, NAD 83:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; friable; moderately acid; abrupt smooth boundary.

A—10 to 18 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; friable; common distinct black (10YR 2/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.

BA—18 to 24 inches; brown (10YR 4/3) silty clay loam; moderate fine and medium subangular blocky structure; friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

Btg1—24 to 31 inches; dark grayish brown (10YR 4/2) silty clay; moderate fine prismatic structure parting to moderate fine subangular blocky; friable; common faint dark gray (10YR 4/1) clay films on faces of peds; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

Btg2—31 to 37 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; common faint dark gray (10YR 4/1) clay films on faces of peds; few fine prominent black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; few fine prominent black (7.5YR 2.5/1) iron-manganese stains on faces of peds; common fine faint light brownish gray (2.5Y 6/2) iron depletions and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; slightly alkaline; gradual smooth boundary.

BCg—37 to 50 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; few distinct very dark grayish brown (10YR 3/2) organo-clay films occurring as linings in pores and on a few vertical faces of peds; few fine prominent black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; common fine prominent black (7.5YR 2.5/1) iron-manganese stains on faces of peds; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Cg—50 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; few faint very dark grayish brown (10YR 3/2) organo-clay films occurring as linings in pores; few fine prominent black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; few fine prominent black (7.5YR 2.5/1) iron-manganese stains on faces of vertical cracks; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: More than 40 inches
Depth to the base of soil development: 35 to 55 inches

Ap, A, or AB horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or silty clay loam

BA, Bt, Btg, BC, or BCg horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—silty clay loam or silty clay

Cg or C horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 to 4
Texture—silt loam

43A—Ipava silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and footslopes

Map Unit Composition

Ipava and similar soils: 88 percent
Dissimilar soils: 12 percent

Components of Minor Extent

Similar soils:
- Soils that have less silt and more sand in the lower part of the profile
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay and more silt in the subsoil
- Soils that have a thinner surface soil
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Sable soils on toeslopes

Properties and Qualities of the Ipava Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Apparent seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Jasper Series

Drainage class: Well drained
Landform: Outwash plains
Parent material: Outwash
Slope range: 0 to 10 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Jasper soil in map unit 440C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soil. This soil is classified as a fine-loamy, mixed, superactive, mesic Mollic Hapludalf.

Typical Pedon

Jasper loam, 2 to 5 percent slopes; at an elevation of 645 feet; 100 feet south and 1,600 feet west of the northeast corner of sec. 9, T. 19 N., R. 13 W.; Vermilion County, Illinois; USGS Collison topographic quadrangle; lat. 40 degrees 07 minutes 43 seconds N. and long. 87 degrees 49 minutes 54 seconds W., NAD 27; UTM Zone 16, 0429144 Easting and 4442378 Northing, NAD 83:

Ap—0 to 10 inches; very dark gray (10YR 3/1) loam, gray (10YR 5/1) dry; moderate very fine granular structure; friable; slightly acid; abrupt smooth boundary.
A—10 to 19 inches; very dark gray (10YR 3/1) loam, gray (10YR 5/1) dry; weak very fine subangular blocky structure parting to moderate fine granular; friable; slightly acid; clear smooth boundary.
Bt1—19 to 27 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine subangular blocky structure; friable; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
Bt2—27 to 38 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; friable; many faint brown (10YR 4/3) clay films on faces of peds; moderately acid; diffuse smooth boundary.
Bt3—38 to 49 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; friable; common faint brown (10YR 4/3) clay films on faces of peds; moderately acid; gradual smooth boundary.
C—49 to 67 inches; dark yellowish brown (10YR 4/4), stratified loam, sandy loam, loamy sand, and sand; massive; friable; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon or dark surface layer: 7 to 20 inches
Depth to carbonates: More than 35 inches
Depth to the base of soil development: 35 to more than 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, loam, silty clay loam, or sandy clay loam
Content of rock fragments—less than 5 percent

BC horizon (where present):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—fine sandy loam, sandy loam, loam, or sandy clay loam
Content of rock fragments—less than 5 percent

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified sand to silt loam
Content of rock fragments—less than 10 percent

440A—Jasper loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Summits

Map Unit Composition

Jasper and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface layer
- Soils that have calcareous sand and gravel in the lower part of the profile
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have less sand and more silt in the upper one-half of the profile

Dissimilar soils:
- The poorly drained Selma soils on toeslopes
- The somewhat poorly drained Brenton and La Hogue soils on summits and footslopes

Properties and Qualities of the Jasper Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

440B—Jasper loam, 2 to 5 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Summits and backslopes

Map Unit Composition

Jasper and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface layer
- Soils that have calcareous sand and gravel in the lower part of the profile
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have till in the lower part of the profile
- Soils that have less sand and more silt in the upper one-half of the profile

Dissimilar soils:
- The poorly drained Selma soils on toeslopes
- The somewhat poorly drained Brenton and La Hogue soils on summits and footslopes

Properties and Qualities of the Jasper Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

440C2—Jasper loam, 5 to 10 percent slopes, eroded

Setting

Landform: Outwash plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Jasper and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of more than 10 percent
- Soils that have till in the lower part of the profile
- Soils that are slightly eroded
- Soils that have less sand and more silt in the upper one-half of the profile

Dissimilar soils:
- The poorly drained Selma soils on toeslopes
- Soils that are severely eroded
- The somewhat poorly drained Brenton and La Hogue soils on summits and footslopes

Properties and Qualities of the Jasper Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Kendall Series

Drainage class: Somewhat poorly drained
Landform: Outwash plains and stream terraces
Parent material: Loess over outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs

Typical Pedon

Kendall silt loam, 0 to 2 percent slopes; at an elevation of 650 feet; 1,160 feet north and 400 feet west of the center of sec. 36, T. 15 N., R. 10 E.; Douglas County, Illinois; USGS Oakland topographic quadrangle; lat. 39 degrees 42 minutes 24 seconds N. and long. 88 degrees 02 minutes 17 seconds W., NAD 27; UTM Zone 16, 0411010 Easting and 4395720 Northing, NAD 83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; many very fine and fine roots; few fine and medium rounded black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; neutral; abrupt smooth boundary.

E—7 to 11 inches; grayish brown (10YR 5/2) silt loam; moderate fine and medium granular structure; friable; many very fine and fine roots; common fine and medium rounded black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; slightly acid; clear smooth boundary.

BE—11 to 14 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; many very fine and fine roots; common fine and medium rounded black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; slightly acid; clear smooth boundary.

Btg1—14 to 25 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to moderate fine and medium subangular blocky; firm; few very fine and fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; few medium rounded black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; common fine faint brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; strongly acid; clear smooth boundary.

Btg2—25 to 41 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium and coarse subangular blocky; firm; few very fine and fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium rounded black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

Btg3—41 to 51 inches; 55 percent yellowish brown (10YR 5/6) and 45 percent gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak coarse subangular blocky; firm; few very fine and fine roots; common distinct gray (10YR 5/1) clay films on faces of peds; few medium rounded black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; slightly acid; clear smooth boundary.

2Btg4—51 to 58 inches; 40 percent strong brown (7.5YR 5/6), 30 percent yellowish brown (10YR 5/6), and 30 percent gray (5Y 5/1) loam; weak coarse subangular blocky structure; friable; few distinct dark gray (10YR 4/1) clay films on faces of peds; common fine and medium rounded black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; 5 percent gravel; neutral; clear smooth boundary.

2Cg1—58 to 74 inches; 45 percent yellowish brown (10YR 5/6), 45 percent gray (5Y 5/1), and 10 percent strong brown (7.5YR 5/6), stratified loam, sandy loam, and silt loam; massive; friable; 5 percent gravel; slightly alkaline; abrupt smooth boundary.

2Cg2—74 to 80 inches; 60 percent grayish brown (10YR 5/2), 30 percent gray (10YR 5/1), and 10 percent yellowish brown (10YR 5/6), stratified gravelly loam, gravelly sandy loam, and silt loam; massive; friable; 16 percent gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the loess: 40 to 60 inches
Depth to carbonates: More than 40 inches
Depth to the base of soil development: 40 to more than 60 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 3
Texture—silt loam

E or Eg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—2 or 3
Texture—silt loam

BE horizon (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam

Btg or Bt horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silty clay loam

2Btg, 2Bt, 2BCg, or 2BC horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—loam or clay loam
Content of rock fragments—less than 15 percent

2Cg or 2C horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—stratified sandy loam to silt loam
Content of rock fragments—less than 15 percent

242A—Kendall silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and footslopes

Map Unit Composition

Kendall and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer

- Soils that have till in the lower part of the profile
- Soils that have outwash at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Drummer and Sable soils on toeslopes
- The well drained Camden soils on summits and backslopes

Properties and Qualities of the Kendall Soil

Parent material: Loess over outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): 0.5 foot to 2.0 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

Keomah Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines
Parent material: Loess
Slope range: 0 to 2 percent
Taxonomic classification: Fine, smectitic, mesic Aeric Endoaqualfs

Typical Pedon

Keomah silt loam, 0 to 2 percent slopes; at an elevation of 655 feet; 2,495 feet south and 300 feet west of the northeast corner of sec. 4, T. 2 N., R. 7 W.; Adams County, Illinois; USGS Loraine topographic quadrangle; lat. 40 degrees 11 minutes 22 seconds N. and long. 91 degrees 12 minutes 11 seconds W., NAD 27; UTM Zone 15, 0652954 Easting and 4450337 Northing, NAD 83:

Ap1—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak fine subangular blocky; friable; many very fine and fine roots; moderately acid; abrupt smooth boundary.

Ap2—6 to 11 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium platy structure parting to weak fine subangular blocky; friable; common very fine and fine roots; few distinct brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; moderately acid; abrupt smooth boundary.

E—11 to 18 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak medium platy structure parting to weak fine subangular blocky; friable; common fine roots; few faint dark grayish brown (10YR 4/2) coatings on faces of peds and in pores; few faint light gray (10YR 7/2) (dry) silt coatings on faces of peds and in pores; few fine distinct black (2.5Y 2.5/1) soft masses of oxidized iron and manganese throughout and few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

Bt1—18 to 25 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; common fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent black (2.5Y 2.5/1) soft masses of oxidized iron and manganese throughout; many fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; clear smooth boundary.

Bt2—25 to 33 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds and few faint pressure faces; common fine distinct black (2.5Y 2.5/1) soft masses of oxidized iron and manganese throughout; many fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.

Bt3—33 to 44 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent black (2.5Y 2.5/1) soft masses of oxidized iron and manganese throughout; many fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Btg—44 to 51 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure; firm; few fine roots; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; few fine prominent black (2.5Y 2.5/1) soft masses of oxidized iron and manganese throughout; many fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

BCg1—51 to 63 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure; friable; few very fine roots; common prominent very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores; few fine prominent black (2.5Y 2.5/1) soft masses of oxidized iron and manganese throughout; many medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

BCg2—63 to 76 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure; friable; common prominent very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores; few fine prominent black (2.5Y 2.5/1) soft masses of oxidized iron and manganese throughout; many fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

C—76 to 89 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; few fine prominent black (2.5Y 2.5/1) soft masses of oxidized iron and manganese throughout; few medium distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid.

Range in Characteristics

Depth to the base of soil development: 40 to 76 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—1 or 2
Texture—silt loam

E horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 3
Texture—silt loam

Bt or Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—2 to 4
Texture—silty clay loam or silty clay

C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

17A—Keomah silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits

Map Unit Composition

Keomah and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that are less than 40 inches deep to the base of soil development
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have less clay and more silt in the subsoil

Dissimilar soils:
- The poorly drained Sable soils on toeslopes

Properties and Qualities of the Keomah Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: High

Apparent seasonal high water table (depth, months): 0.5 foot to 2.0 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

Kishwaukee Series

Drainage class: Well drained
Landform: Outwash plains and stream terraces
Parent material: Thin mantle of loess or other silty material and the underlying outwash over sand and gravel
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Kishwaukee silt loam, 0 to 2 percent slopes; at an elevation of 702 feet; 2,060 feet south and 200 feet east of the northwest corner of sec. 22, T. 22 N., R. 14 W.; Vermilion County, Illinois; USGS Penfield topographic quadrangle; lat. 40 degrees 21 minutes 03 seconds N. and long. 87 degrees 55 minutes 49 seconds W., NAD 27; UTM Zone 16, 0420997 Easting and 4467114 Northing, NAD 83:

Ap—0 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; slightly acid; abrupt smooth boundary.
Bt1—11 to 16 inches; brown (10YR 4/3) silty clay loam; moderate very fine subangular blocky structure; friable; common faint dark brown (10YR 3/3) and many faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.
2Bt2—16 to 32 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine subangular blocky structure; friable; common faint dark brown (10YR 3/3) and common faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 3 percent fine gravel; moderately acid; clear smooth boundary.
2Bt3—32 to 54 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; friable; common faint dark brown (10YR 3/3) organo-clay films on faces of peds; 10 percent fine gravel; slightly acid; clear smooth boundary.
3C—54 to 64 inches; light yellowish brown (10YR 6/4), stratified sand and very gravelly sand; single grain; loose; 15 percent fine gravel, 35 percent medium and coarse gravel, and 2 percent cobbles; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: Less than 20 inches
Depth to horizons that contain more than 15 percent gravel: 40 to 60 inches

Depth to calcareous sand and gravel: 50 to 70 inches
Depth to the base of soil development: 50 to 70 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—2 or 3
Texture—silt loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam, clay loam, or loam

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture—clay loam, silty clay loam, or loam
Content of rock fragments—less than 10 percent

3C horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—stratified very gravelly loamy sand to sand
Content of rock fragments—20 to 60 percent

623A—Kishwaukee silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Summits

Map Unit Composition

Kishwaukee and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner surface layer
- Soils that have horizons containing more than 15 percent gravel beginning at a depth of less than 40 inches or more than 60 inches
- Soils that have slopes of more than 2 percent
- Soils that have less sand and more silt in the upper one-half of the profile

Dissimilar soils:
- The poorly drained Selma soils on toeslopes
- The somewhat poorly drained La Hogue soils on summits and footslopes

Properties and Qualities of the Kishwaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash over sand and gravel
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

La Hogue Series

Drainage class: Somewhat poorly drained
Landform: Outwash plains and stream terraces
Parent material: Outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

La Hogue loam, 0 to 2 percent slopes; at an elevation of 658 feet; 2,000 feet south and 545 feet west of the northeast corner of sec. 7, T. 27 N., R. 9 E.; Ford County, Illinois; USGS Piper City topographic quadrangle; lat. 40 degrees 49 minutes 47 seconds N. and long. 88 degrees 13 minutes 29 seconds W., NAD 27; UTM Zone 16, 0396725 Easting and 4520564 Northing, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; slightly acid; abrupt smooth boundary.

A—7 to 13 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; moderate very fine and fine granular structure; friable; slightly acid; clear smooth boundary.

AB—13 to 16 inches; very dark brown (10YR 2/2) loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure parting to moderate fine and medium granular; friable; slightly acid; clear smooth boundary.

Bt1—16 to 24 inches; brown (10YR 4/3) clay loam; weak fine and medium prismatic structure parting to moderate fine and medium angular blocky; friable; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine faint dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; few fine faint grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Bt2—24 to 32 inches; olive brown (2.5Y 4/4) clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; friable; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine prominent strong brown (7.5YR 5/6) weakly cemented iron-manganese concretions throughout; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt3—32 to 39 inches; olive brown (2.5Y 4/4) sandy loam; weak medium prismatic structure parting to moderate medium angular blocky; friable; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; neutral; clear smooth boundary.

BCt—39 to 48 inches; light olive brown (2.5Y 5/4) sandy loam; weak medium angular blocky structure; friable; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.

C—48 to 60 inches; light olive brown (2.5Y 5/4) sandy loam; massive; friable; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many medium distinct light brownish gray (2.5Y 6/2) and common fine prominent gray (N 6/) iron depletions in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: More than 60 inches
Depth to the base of soil development: 35 to 60 inches

Ap, A, or AB horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loam

Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—clay loam, loam, or sandy clay loam
Content of rock fragments—less than 4 percent

BCt or BC horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 6
Texture—loam, sandy loam, or loamy sand
Content of rock fragments—less than 7 percent

C or Cg horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—stratified loamy sand to silt loam
Content of rock fragments—less than 15 percent

102A—La Hogue loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and footslopes

Map Unit Composition

La Hogue and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have till in the lower part of the profile
- Soils that have less clay and silt and more sand and gravel in the lower part of the profile
- Soils that have less sand and more silt in the upper one-half of the profile
- Soils that are less than 35 inches deep to the base of soil development

Dissimilar soils:
- The poorly drained Selma soils on toeslopes
- The well drained Jasper and Proctor soils on summits, shoulders, and backslopes

Properties and Qualities of the La Hogue Soil

Parent material: Outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Landes Series

Drainage class: Well drained
Landform: Flood plains and natural levees
Parent material: Loamy alluvium
Slope range: 0 to 2 percent
Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Fluventic Hapludolls

Typical Pedon

Landes fine sandy loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 440 feet; 99 feet south and 990 feet west of the northeast corner of sec. 4, T. 18 N., R. 11 W.; Cass County, Illinois; USGS Clearlake topographic quadrangle; lat. 40 degrees

02 minutes 51 seconds N. and long. 90 degrees 19 minutes 58 seconds W., NAD 27; UTM Zone 15, 0727519 Easting and 4436443 Northing, NAD 83:

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 4/3) dry; weak fine subangular blocky structure parting to weak fine granular; friable; few very fine roots; few fine very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; abrupt smooth boundary.

A—5 to 14 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; few very fine roots; neutral; clear smooth boundary.

AB—14 to 19 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; friable; few very fine roots; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw1—19 to 23 inches; brown (10YR 4/3) loam; weak fine and medium subangular blocky structure; friable; few very fine roots; many faint dark brown (10YR 3/3) and few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw2—23 to 28 inches; brown (10YR 4/3) fine sandy loam; weak medium subangular blocky structure; friable; few very fine roots; common faint dark brown (10YR 3/3) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw3—28 to 32 inches; brown (10YR 4/3) and dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; very friable; few very fine roots; common faint dark brown (10YR 3/3) organic coatings on faces of peds; less than 2 percent fine gravel; neutral; clear smooth boundary.

BC—32 to 36 inches; dark yellowish brown (10YR 4/4) and brown (10YR 4/3) loamy sand; weak medium subangular blocky structure; very friable; few very fine roots; 5 percent fine gravel; neutral; clear smooth boundary.

C—36 to 60 inches; yellowish brown (10YR 5/4) sand; single grain; loose; 2 percent fine gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: More than 36 inches
Depth to the base of soil development: 22 to 40 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—fine sandy loam
Content of rock fragments—0 to 10 percent

Bw horizon:
Hue—10YR
Value—3 to 6
Chroma—2 to 4
Texture—loam, fine sandy loam, very fine sandy loam, or loamy fine sand
Content of rock fragments—0 to 10 percent

BC or C horizon:
Hue—10YR, 7.5YR, 5YR, or 2.5YR
Value—4 to 6
Chroma—1 to 4
Texture—sand, loamy fine sand, or sandy loam
Content of rock fragments—0 to 10 percent

7304A—Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Natural levees and flood plains

Map Unit Composition

Landes and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand and more clay or silt in the upper one-half of the profile
- Soils that have calcareous sand and gravel in the lower part of the profile
- Soils that have a thinner or lighter colored surface soil
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

Dissimilar soils:
- The somewhat poorly drained Shaffton soils on flood plains
- Soils that are subject to occasional flooding

Properties and Qualities of the Landes Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Ponding: None
Flooding (frequency, months): Rare, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2s
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

8304A—Landes fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Natural levees and flood plains

Map Unit Composition

Landes and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand and more clay or silt in the upper one-half of the profile
- Soils that have calcareous sand and gravel in the lower part of the profile
- Soils that have a thinner or lighter colored surface soil
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that are subject to frequent flooding

Dissimilar soils:
- The somewhat poorly drained Shaffton soils on flood plains
- Soils that are subject to rare flooding

Properties and Qualities of the Landes Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Ponding: None
Flooding (frequency, months): Occasional, November through June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Lenzburg Series

Drainage class: Well drained
Landform: Reclaimed land, spoil banks, and ground moraines
Parent material: Mine spoil or earthy fill
Slope range: 1 to 7 percent and 20 to 70 percent
Taxonomic classification: Fine-loamy, mixed, active, calcareous, mesic Haplic Udarents

Typical Pedon

Lenzburg loam, 1 to 7 percent slopes; at an elevation of 650 feet; 130 feet west and 2,600 feet south of the northeast corner of sec. 3, T. 19 N., R. 12 W.; Vermilion County, Illinois; USGS Danville NW topographic quadrangle; lat. 40 degrees 08 minutes 17 seconds N. and long. 87 degrees 41 minutes 50 seconds W., NAD 27; UTM Zone 16, 0440608 Easting and 4443312 Northing, NAD 83:

A—0 to 2 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; moderate very fine granular structure; friable; 10 percent rounded stones and cobbles and channers more than 3 inches long throughout; 4 percent gravel and channers less than 3 inches long throughout; slightly effervescent; slightly alkaline; abrupt smooth boundary.

C1—2 to 21 inches; 80 percent dark grayish brown (10YR 4/2) loam till; massive; firm; few medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 5 percent gravel and channers less than 3 inches long throughout; 8 percent cobbles and channers more than 3 inches long throughout; few coal fragments throughout; few weakly cemented very firm shale fragments throughout; strongly effervescent; moderately alkaline; 20 percent gray (N 6/) clay; moderate medium platy rock structure; firm; few distinct dark reddish brown (5YR 3/2) coatings on structural faces; few fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; strongly effervescent; moderately alkaline; diffuse wavy boundary.

C2—21 to 60 inches; mixed 50 percent dark grayish brown (10YR 4/2) and 45 percent brown (7.5YR 4/2) loam till and 5 percent gray (N 6/) clay; massive; firm; many medium distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; 4 percent gravel and channers less than 3 inches long throughout; 8 percent cobbles and channers more than 3 inches long throughout; few weakly cemented very firm shale fragments throughout; few coal fragments throughout; strongly effervescent; moderately alkaline.

Range in Characteristics

A horizon:

Hue—10YR
Value—2 to 4
Chroma—2 to 4
Texture—loam or gravelly loam
Content of rock fragments—1 to 25 percent

C horizon:

Hue—10YR, 7.5YR, or N
Value—4 to 6
Chroma—0 to 6
Texture—loam, clay loam, silt loam, or silty clay loam or the gravelly analogs of these textures
Content of rock fragments—5 to 35 percent

871B—Lenzburg loam, 1 to 7 percent slopes

Setting

Landform: Spoil banks, reclaimed land, and ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Lenzburg and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have more than 15 percent rock fragments in the surface layer
- Soils that are not calcareous
- Soils that have less sand and more clay or silt in the upper part of the profile
- Soils that have slopes of more than 7 percent

Dissimilar components:
- Soils that are severely eroded
- Depressional areas that are ponded

- Pockets of extremely acid material
- Haulage roads and lanes

Properties and Qualities of the Lenzburg Soil

Parent material: Mine spoil or earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

871G—Lenzburg gravelly loam, 20 to 70 percent slopes

Setting

Landform: Outwash plains, reclaimed land, and spoil banks (fig. 7)
Position on the landform: Backslopes

Map Unit Composition

Lenzburg and similar soils: 95 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less than 15 percent rock fragments in the surface layer
- Soils that are not calcareous
- Soils that have less sand and more clay or silt in the upper part of the profile
- Soils that have slopes of less than 20 percent or more than 70 percent

Dissimilar components:
- Soils that are severely eroded
- Pockets of extremely acid material
- Small areas of water between ridges
- Haulage roads and lanes

Properties and Qualities of the Lenzburg Soil

Parent material: Mine spoil or earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches

Figure 7.—An area of Lenzburg gravelly loam, 20 to 70 percent slopes. This soil occurs as unreclaimed areas that have been strip mined.

Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Negligible

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Lisbon Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and end moraines
Parent material: Loess or other silty material and the underlying till
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Lisbon silt loam, 0 to 2 percent slopes; at an elevation of 858 feet; 1,190 feet north and 310 feet east of the southwest corner of sec. 36, T. 43 N., R. 4 E; Boone County, Illinois; USGS Riley topographic quadrangle; lat. 42 degrees 09 minutes 25 seconds N. and long. 88 degrees 43 minutes 26 seconds W., NAD 27; UTM Zone 16, 0357574 Easting and 4668632 Northing, NAD 83:

Ap—0 to 7 inches; very dark brown (10YR 2/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; friable; slightly acid; abrupt smooth boundary.

A—7 to 11 inches; very dark brown (10YR 2/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; neutral; clear smooth boundary.

BA—11 to 17 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; common fine faint dark grayish brown (10YR 4/2) and few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Bt1—17 to 23 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure parting to strong fine subangular blocky; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Bt2—23 to 28 inches; light olive brown (2.5Y 5/6) silty clay loam; strong fine angular blocky structure; firm; common distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine faint yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine prominent grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt3—28 to 36 inches; olive brown (2.5Y 4/4) silty clay loam; weak medium prismatic structure parting to strong medium angular and subangular blocky; firm; common distinct grayish brown (10YR 5/2) and few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.

2Bt4—36 to 39 inches; yellowish brown (10YR 5/6) clay loam; weak coarse prismatic structure; firm; common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; few fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; few medium distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 1 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2C—39 to 70 inches; light yellowish brown (10YR 6/4) loam; massive; firm; pale brown (10YR 6/3) coatings on vertical faces of joints; few fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; few fine distinct brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; common fine prominent greenish gray (5GY 6/1) iron depletions in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: 20 to 40 inches
Depth to carbonates: 20 to 40 inches
Depth to the base of soil development: 24 to 42 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt or BA horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6

Chroma—2 to 6
Texture—silty clay loam or silt loam

2Bt or 2BC horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—clay loam or loam

2C horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—loam or sandy loam

59A—Lisbon silt loam, 0 to 2 percent slopes

Setting

Landform: End moraines and ground moraines
Position on the landform: Summits and footslopes

Map Unit Composition

Lisbon and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that are more than 42 inches deep to the base of soil development
- Soils that have till beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have stratified loamy outwash in the lower part of the profile
- In the area between Danville and Bismarck, soils that have less sand and silt and more clay in the lower part of the profile
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Lisbon Soil

Parent material: Loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Marseilles Series

Drainage class: Well drained
Landform: End moraines
Parent material: Loamy drift and/or residuum derived from sandstone and shale
Slope range: 40 to 80 percent
Taxonomic classification: Fine-silty, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Marseilles loam, 40 to 80 percent slopes; at an elevation of 600 feet; 440 feet north and 1,100 feet west of the southeast corner of sec. 16, T. 19 N., R. 12 W.; Vermilion County, Illinois; USGS Danville SW topographic quadrangle; lat. 40 degrees 06 minutes 09 seconds N. and long. 87 degrees 43 minutes 09 seconds W., NAD 27; UTM Zone 16, 0438702 Easting and 4439386 Northing, NAD 83:

A—0 to 3 inches; very dark grayish brown (10YR 3/2) loam, gray (10YR 5/1) dry; moderate very fine granular structure; friable; 3 percent fine gravel; neutral; abrupt smooth boundary.

E—3 to 6 inches; dark grayish brown (10YR 4/2) loam, grayish brown (10YR 5/2) dry; moderate very fine granular structure; friable; 3 percent fine gravel; neutral; abrupt smooth boundary.

Bt1—6 to 12 inches; brown (10YR 4/3) silt loam; moderate very fine subangular blocky structure; friable; few faint grayish brown (10YR 5/2) clay films on faces of peds; 1 percent fine gravel; neutral; gradual smooth boundary.

2Bt2—12 to 19 inches; light olive brown (2.5Y 5/3) silt loam; moderate very fine subangular blocky structure; friable; few faint grayish brown (2.5Y 5/2) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 1 percent medium channers; moderately acid; clear smooth boundary.

2BC—19 to 23 inches; grayish brown (2.5Y 5/2) silt loam; moderate fine subangular blocky structure; firm; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; abrupt smooth boundary.

2Cr1—23 to 25 inches; 70 percent gray (2.5Y 5/1), soft siltstone and 30 percent yellowish brown (10YR 5/6), hard sandstone; weak medium platy rock structure; weakly cemented; neutral; clear smooth boundary.

2Cr2—25 to 60 inches; gray (2.5Y 5/1) siltstone; neutral.

Range in Characteristics

Depth to paralithic contact: 20 to 40 inches
Depth to the base of soil development: 20 to 40 inches

A horizon:
Hue—10YR
Value—2 to 4
Chroma—2 or 3
Texture—loam or silt loam

E horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam or silt loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam

2Bt or 2BC horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 or 3
Texture—silt loam or silty clay loam

2Cr horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 6

549G—Marseilles loam, 40 to 80 percent slopes

Setting

Landform: End moraines
Position on the landform: Backslopes

Map Unit Composition

Marseilles and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 40 percent
- Soils that are moderately eroded
- Soils that have a paralithic contact at a depth of more than 40 inches
- Soils that have less silt and more sand or clay in the subsoil

Dissimilar soils:
- Soils that are severely eroded
- The well drained Landes and Rossburg soils on flood plains
- The gently sloping, moderately well drained Xenia soils on summits and backslopes

Properties and Qualities of the Marseilles Soil

Parent material: Loamy drift and/or residuum derived from sandstone and shale
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Available water capacity: About 4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None

Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Martinsville Series

Drainage class: Well drained
Landform: Stream terraces and outwash plains
Parent material: Loamy outwash with or without a thin mantle of loess
Slope range: 2 to 35 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Martinsville silt loam, 2 to 5 percent slopes; at an elevation of about 695 feet; 250 feet south and 1,430 feet east of the northwest corner of sec. 36, T. 21 N., R. 7 E.; Champaign County, Illinois; USGS Rising topographic quadrangle; lat. 40 degrees 14 minutes 14 seconds N. and long. 88 degrees 21 minutes 37 seconds W., NAD 27; UTM Zone 16, 0384283 Easting and 4454978 Northing, NAD 83:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak very fine and fine granular structure; friable; common very fine roots; moderately acid; abrupt smooth boundary.

BE—9 to 12 inches; yellowish brown (10YR 5/4) silt loam; moderate fine angular blocky structure; friable; common very fine roots; few faint brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.

2Bt1—12 to 19 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium prismatic structure parting to strong fine angular blocky; firm; common very fine roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; common distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

2Bt2—19 to 28 inches; strong brown (7.5YR 4/6) clay loam; weak medium prismatic structure parting to strong medium angular blocky; firm; many very fine roots; many distinct dark brown (7.5YR 3/4) clay films on faces of peds and in pores; few fine rounded black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; few fine faint yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

2Bt3—28 to 36 inches; strong brown (7.5YR 4/6) sandy clay loam; moderate medium and coarse angular blocky structure; firm; common very fine roots; many distinct dark brown (7.5YR 3/4) clay films on faces of peds and in pores; few fine rounded black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; few fine faint yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

2Bt4—36 to 45 inches; yellowish brown (10YR 5/4) sandy clay loam; weak coarse angular blocky structure; firm; few very fine roots; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; common fine rounded black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; few fine distinct

yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; abrupt smooth boundary.

2Bt5—45 to 57 inches; yellowish brown (10YR 5/4), stratified silt loam; weak coarse angular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; common fine rounded black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; abrupt smooth boundary.

2BCt—57 to 69 inches; yellowish brown (10YR 5/4), stratified silt loam, loam, and sandy loam; weak coarse angular blocky structure; friable; few distinct brown (10YR 4/3) clay films on vertical faces of peds; common fine rounded black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint pale brown (10YR 6/3) iron depletions in the matrix; moderately acid; clear smooth boundary.

2C—69 to 80 inches; light yellowish brown (10YR 6/4), stratified loam and sandy loam; massive; friable; slightly acid.

Range in Characteristics

Thickness of the loess: Less than 20 inches
Depth to carbonates: 40 to 80 inches
Depth to the base of soil development: 40 to 80 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—silt loam or loam

BE or E horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam or loam

Bt, BCt, 2Bt, or 2BCt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, loam, sandy loam, sandy clay loam, fine sandy loam, silty clay loam, or silt loam
Content of rock fragments—less than 10 percent

C or 2C horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified sand to silt loam
Content of rock fragments—less than 10 percent

570B—Martinsville silt loam, 2 to 5 percent slopes

Setting

Landform: Outwash plains and outwash terraces
Position on the landform: Summits and backslopes

Map Unit Composition

Martinsville and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have till in the lower part of the profile
- Soils that have less sand and more silt in the upper part of the subsoil
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The poorly drained Sawmill soils on flood plains
- The somewhat poorly drained Kendall, Starks, and Whitaker soils on summits and footslopes

Properties and Qualities of the Martinsville Soil

Parent material: Thin loess over loamy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

570C2—Martinsville loam, 5 to 10 percent slopes, eroded

Setting

Landform: Outwash plains and outwash terraces
Position on the landform: Backslopes

Map Unit Composition

Martinsville and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have calcareous sand and gravel in the lower part of the profile
- Soils that have a darker surface layer
- Soils that have till in the lower part of the profile

- Soils that have less sand and more silt in the upper part of the subsoil
- Soils that have slopes of more than 10 percent

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The poorly drained Sawmill soils on flood plains
- The somewhat poorly drained Kendall, Starks, and Whitaker soils on summits and footslopes

Properties and Qualities of the Martinsville Soil

Parent material: Loamy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

570D2—Martinsville loam, 10 to 18 percent slopes, eroded

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Backslopes

Map Unit Composition

Martinsville and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have till in the lower part of the profile
- Soils that have calcareous sand and gravel in the lower part of the profile
- Soils that have less sand and more silt in the upper part of the subsoil
- Soils that have slopes of less than 10 percent or more than 18 percent
- Soils that are slightly eroded

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The poorly drained Sawmill soils on flood plains

- The somewhat poorly drained Kendall, Starks, and Whitaker soils on summits and footslopes
- Soils that are severely eroded

Properties and Qualities of the Martinsville Soil

Parent material: Loamy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

570F—Martinsville loam, 18 to 35 percent slopes

Setting

Landform: Ground moraines, outwash plains, and stream terraces
Position on the landform: Backslopes

Map Unit Composition

Martinsville and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that are moderately eroded
- Soils that have more gravel in the lower one-half of the profile
- Soils that have slopes of less than 18 percent or more than 35 percent
- Soils that have less clay or silt and more sand in the surface layer

Dissimilar soils:
- The somewhat poorly drained Kendall, Starks, and Whitaker soils on summits and footslopes
- The well drained Landes soils on adjacent flood plains
- The somewhat poorly drained Shaffton soils on adjacent flood plains

Properties and Qualities of the Martinsville Soil

Parent material: Loamy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Milford Series

Drainage class: Poorly drained
Landform: Lake plains
Parent material: Lacustrine deposits
Slope range: 0 to 2 percent
Taxonomic classification: Fine, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Milford silty clay loam, 0 to 2 percent slopes; at an elevation of 643 feet; 1,450 feet north and 70 feet east of the southwest corner of sec. 4, T. 26 N., R. 14 W.; Iroquois County, Illinois; USGS Gilman topographic quadrangle; lat. 40 degrees 45 minutes 25 seconds N. and long. 87 degrees 57 minutes 28 seconds W., NAD 27; UTM Zone 16, 0419150 Easting and 45122261 Northing, NAD 83:

Ap—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine and fine subangular and angular blocky structure; firm; many fine roots; slightly acid; abrupt smooth boundary.

A—9 to 18 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate and strong very fine subangular blocky structure; firm; common fine roots; slightly acid; clear smooth boundary.

BA—18 to 22 inches; very dark gray (10YR 3/1) silty clay, gray (10YR 5/1) dry; moderate fine and medium angular blocky structure; very firm; common fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common medium prominent olive brown (2.5Y 4/4) masses of oxidized iron and manganese in the matrix; common medium faint dark grayish brown (2.5Y 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bg1—22 to 31 inches; gray (5Y 5/1) silty clay loam; moderate medium and coarse prismatic structure parting to moderate medium and coarse angular and subangular blocky; very firm; common fine roots; many faint dark gray (5Y 4/1) pressure faces on faces of peds; few fine black (N 2.5/) iron-manganese concretions throughout; many medium prominent dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; many medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bg2—31 to 42 inches; gray (5Y 5/1) clay loam; moderate coarse prismatic structure parting to moderate medium and coarse angular blocky; very firm; few fine roots;

common medium prominent dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bg3—42 to 50 inches; dark gray (5Y 4/1) silty clay loam stratified with thin bands of clay loam; moderate coarse prismatic structure parting to moderate coarse subangular and angular blocky; firm; few fine roots; many medium prominent dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear wavy boundary.

Cg—50 to 60 inches; gray (5Y 5/1) clay loam stratified with bands of fine sandy loam and silty clay loam; massive; firm; few fine roots; many coarse prominent yellowish brown (10YR 5/4 and 5/8) masses of oxidized iron in the matrix; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates: More than 36 inches
Depth to the base of soil development: 36 to 60 inches

Ap or A horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam or silty clay

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam, silty clay, or clay loam; some pedons are stratified with these textures

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—stratified sandy loam to silty clay loam

69A—Milford silty clay loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on the landform: Toeslopes

Map Unit Composition

Milford and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have till in the lower part of the profile
- Soils that have less clay and more silt or sand in the subsoil
- Soils that have a thicker surface soil

Dissimilar soils:
- The somewhat poorly drained Elliott and Lisbon soils on summits and footslopes

Properties and Qualities of the Milford Soil

Parent material: Lacustrine deposits
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 6 percent
Shrink-swell potential: High
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May
Ponding (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

MW—Miscellaneous water

This map unit consists of bodies of water at municipal sewage treatment plants and animal waste treatment facilities. Included in mapping are established earth berms around the lagoon.

Mokena Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and lake plains
Parent material: Thin mantle of loess or other silty material and the underlying outwash and till or lacustrine deposits
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Aquic Argiudolls

Typical Pedon

Mokena silt loam, 0 to 2 percent slopes; at an elevation of 636 feet; 1,980 feet south and 194 feet east of the northwest corner of sec. 7, T. 29 N., R. 12 W.; Kankakee County, Illinois; USGS Kankakee topographic quadrangle; lat. 41 degrees 00 minutes 53 seconds N. and long. 87 degrees 46 minutes 15 seconds W., NAD 27; UTM Zone 16, 0435183 Easting and 4540680 Northing, NAD 83:

Ap—0 to 5 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; clear smooth boundary.
A—5 to 12 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to weak fine and medium granular; friable; common very fine and fine roots; neutral; gradual wavy boundary.

AB—12 to 15 inches; 70 percent black (10YR 2/1) and 30 percent very dark grayish brown (10YR 3/2) loam, dark gray (10YR 4/1) dry; weak fine and medium subangular blocky structure parting to weak fine and medium granular; friable; few very fine and fine roots; neutral; gradual wavy boundary.

Bt1—15 to 20 inches; olive brown (2.5Y 4/3) loam; moderate medium subangular blocky structure; firm; few very fine and fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common prominent black (10YR 2/1) organic coatings in root channels; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

Bt2—20 to 25 inches; light olive brown (2.5Y 5/3) loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common prominent black (10YR 2/1) organic coatings in root channels; common medium black (N 2.5/) iron-manganese nodules throughout; common fine faint grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

Bt3—25 to 32 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium prismatic structure; firm; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium black (N 2.5/) iron-manganese nodules throughout; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly alkaline; gradual smooth boundary.

Bt4—32 to 38 inches; 50 percent yellowish brown (10YR 5/4) and 50 percent dark grayish brown (2.5Y 4/2) clay loam; weak medium and coarse angular blocky structure; firm; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium black (N 2.5/) iron-manganese nodules throughout; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 1 percent gravel; slightly alkaline; clear smooth boundary.

2Bt5—38 to 42 inches; gray (5Y 5/1) silty clay; weak fine and medium subangular blocky structure; very firm; few very fine and fine roots; few prominent dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium black (N 2.5/) iron-manganese nodules throughout; many medium prominent yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; 1 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.

2Cd—42 to 60 inches; 80 percent gray (5Y 5/1) and 20 percent yellowish brown (10YR 5/4) silty clay; massive; very firm; few fine black (N 2.5/) iron-manganese nodules throughout; common medium light gray (2.5Y 7/1) calcium carbonate concretions throughout; 2 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to till or lacustrine deposits: 30 to 50 inches
Depth to carbonates: 30 to 50 inches
Depth to the base of soil development: 30 to 60 inches

Ap, A, or AB horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or loam

Bt horizon:
Hue—10YR or 2.5Y
Value—3 to 5

Chroma—2 to 4
Texture—loam, clay loam, or sandy clay loam

2Bt horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay or clay
Content of rock fragments—less than 7 percent

2Cd horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay or clay
Content of rock fragments—less than 10 percent

295A—Mokena silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Summits and footslopes

Map Unit Composition

Mokena and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand and more silt or clay in the subsoil
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have till or lacustrine deposits beginning at a depth of less than 30 inches or more than 50 inches

Dissimilar soils:
- The poorly drained Bryce soils on toeslopes

Properties and Qualities of the Mokena Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till or lacustrine deposits
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 30 to 60 inches to dense material
Available water capacity: About 7.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Mona Series

Drainage class: Moderately well drained
Landform: Ground moraines and lake plains
Parent material: Thin mantle of loess or other silty material and the underlying outwash and lacustrine deposits or till
Slope range: 2 to 5 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Oxyaquic Argiudolls

Typical Pedon

Mona silt loam, 2 to 5 percent slopes; at an elevation of 718 feet; 130 feet south and 600 feet west of the northeast corner of sec. 20, T. 23 N., R. 13 W.; Vermilion County, Illinois; USGS East Lynn topographic quadrangle; lat. 40 degrees 26 minutes 36 seconds N. and long. 87 degrees 50 minutes 21 seconds W., NAD 27; UTM Zone 16, 0428819 Easting and 4477307 Northing, NAD 83:

Ap—0 to 11 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; common fine and medium roots; slightly acid; clear smooth boundary.

Bt1—11 to 15 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; common fine and medium roots; common faint brown (10YR 4/3) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; slightly acid; clear smooth boundary.

2Bt2—15 to 22 inches; yellowish brown (10YR 5/4) clay loam; moderate fine subangular blocky structure; friable; common medium to very fine roots; common faint brown (10YR 4/3) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; neutral; clear smooth boundary.

2Bt3—22 to 31 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; common faint brown (10YR 4/3) clay films on faces of peds; few faint very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

2Bt4—31 to 39 inches; light olive brown (2.5Y 5/4) clay loam; weak medium subangular blocky structure; firm; few fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine rounded white (10YR 8/1) weakly cemented calcium carbonate nodules throughout; neutral; clear smooth boundary.

3BC—39 to 44 inches; grayish brown (2.5Y 5/2) silty clay; weak coarse subangular blocky structure; very firm; few fine irregular strong brown (7.5YR 5/8) weakly cemented iron-manganese nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; few fine rounded white (10YR 8/1) weakly cemented calcium carbonate nodules throughout; 3 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

3Cd—44 to 60 inches; grayish brown (2.5Y 5/2) silty clay; massive; very firm; few fine irregular strong brown (7.5YR 5/8) weakly cemented iron oxide nodules throughout; common medium faint gray (10YR 5/1) iron depletions in the matrix; few fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; few fine rounded white (10YR 8/1) weakly cemented calcium carbonate nodules throughout; 3 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: Less than 24 inches
Depth to till or lacustrine deposits: 30 to 50 inches
Depth to carbonates: 30 to 54 inches
Depth to the base of soil development: 30 to 54 inches

Ap, A, or AB horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon (where present):
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—silty clay loam

2Bt or 2BC horizon:
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—clay loam or sandy clay loam
Content of rock fragments—less than 10 percent

3BC or 3Cd horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay or clay
Content of rock fragments—less than 10 percent

448B—Mona silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Summits and backslopes

Map Unit Composition

Mona and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface soil
- Soils that have less sand and more silt in the subsoil

- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have a seasonal high water table at a depth of 1 to 2 feet

Dissimilar soils:

- The poorly drained Bryce soils on toeslopes

Properties and Qualities of the Mona Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and lacustrine deposits or till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 36 to 54 inches to dense material
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: High
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Ockley Series

Drainage class: Well drained
Landform: Stream terraces and outwash plains
Parent material: Thin mantle of loess or other silty material and the underlying loamy outwash over sandy and gravelly outwash
Slope range: 2 to 5 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Ockley silt loam, 2 to 5 percent slopes; at an elevation of 718 feet; 2,490 feet south and 80 feet east of the northwest corner of sec. 6, T. 22 N., R. 14 W.; Champaign County, Illinois; USGS Rankin topographic quadrangle; lat. 40 degrees 23 minutes 33 seconds N. and long. 87 degrees 59 minutes 23 seconds W., NAD 27; UTM Zone 16, 0416000 Easting and 4471796 Northing, NAD 83:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to moderate fine granular; friable; few faint brown (10YR 5/3) (dry) silt coatings on faces of peds; slightly acid; abrupt smooth boundary.

Bt1—10 to 19 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; common distinct brown (10YR 4/3)

clay films on faces of peds; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; moderately acid; clear smooth boundary.

2Bt2—19 to 24 inches; dark yellowish brown (10YR 4/4) clay loam; weak medium prismatic structure parting to moderate medium angular blocky; firm; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.

2Bt3—24 to 35 inches; dark yellowish brown (10YR 4/4) clay loam; moderate coarse prismatic structure; firm; many distinct brown (10YR 4/3) clay films on faces of peds; few medium distinct and prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

2Bt4—35 to 45 inches; brown (10YR 4/3) and dark yellowish brown (10YR 4/4) gravelly clay loam; weak medium subangular blocky structure; friable; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; common medium distinct and prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

3C1—45 to 53 inches; brown (10YR 4/3) gravelly loamy sand; massive; very friable; slightly effervescent; slightly alkaline; abrupt smooth boundary.

3C2—53 to 60 inches; brown (10YR 5/3) sand and gravel; single grain; loose; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or silty material: Less than 20 inches
Depth to sand and gravel: 40 to 72 inches
Depth to carbonates: 40 to 72 inches
Depth to the base of soil development: 40 to 72 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam

Bt horizon (where present):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam

2Bt horizon:
Hue—5YR, 7.5YR, or 10YR
Value—3 to 5
Chroma—2 to 6
Texture—clay loam, sandy clay loam, loam, or sandy loam or the gravelly or very gravelly analogs of these textures
Content of rock fragments—0 to 45 percent

3C horizon:
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—stratified very gravelly loamy sand to coarse sand
Content of rock fragments—30 to 60 percent

387B—Ockley silt loam, 2 to 5 percent slopes

Setting

Landform: Stream terraces and outwash plain
Position on the landform: Summits and backslopes

Map Unit Composition

Ockley and similar soils: 96 percent
Dissimilar soils: 4 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have till in the lower part of the profile
- Soils that have less sand and more silt in the upper one-half of the profile
- Soils that have less clay and silt and more sand in the subsoil
- Soils that have sandy and gravelly outwash beginning at a depth of less than 40 inches or more than 72 inches

Dissimilar soils:
- The poorly drained Selma soils on toeslopes
- The somewhat poorly drained Whitaker soils on summits and footslopes

Properties and Qualities of the Ockley Soil

Parent material: Thin mantle of loess or other silty material and the underlying loamy outwash over sandy and gravelly outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Very rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Odell Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Odell silt loam, 0 to 2 percent slopes; at an elevation of 709 feet; 35 feet north and 1,240 feet west of the center of sec. 4, T. 21 N., R. 14 W.; Champaign County, Illinois; USGS Penfield topographic quadrangle; lat. 40 degrees 18 minutes 24 seconds N. and long. 87 degrees 56 minutes 38 seconds W., NAD 27; UTM Zone 16, 0419788 Easting and 4462227 Northing, NAD 83:

Ap—0 to 11 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine and medium angular blocky structure; friable; neutral; abrupt smooth boundary.

Bt1—11 to 16 inches; brown (10YR 4/3) silty clay loam; moderate very fine subangular blocky structure; friable; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

2Bt2—16 to 21 inches; light olive brown (2.5Y 5/4) clay loam; moderate fine subangular blocky structure; friable; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

2Bt3—21 to 26 inches; light olive brown (2.5Y 5/4) clay loam; moderate medium subangular blocky structure; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine rounded black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

2C—26 to 60 inches; light olive brown (2.5Y 5/4) loam; massive; firm; common fine prominent gray (N 6/) iron depletions in the matrix; few fine prominent brownish yellow (10YR 6/8) masses of oxidized iron in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches
Thickness of the loess or other silty material: Less than 18 inches
Depth to carbonates: 24 to 40 inches
Depth to the base of soil development: 24 to 40 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt or 2Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam, clay loam, or loam

2C horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 7
Chroma—2 to 4
Texture—loam

490A—Odell silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and footslopes

Map Unit Composition

Odell and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have a thinner surface soil
- Soils that have till beginning at a depth of more than 18 inches
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Odell Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Onarga Series

Drainage class: Well drained
Landform: Beach ridges and outwash plains
Parent material: Eolian deposits and/or outwash
Slope range: 2 to 10 percent
Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Argiudolls

Taxadjunct features: The Onarga soil in map unit 150C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soil. This soil is classified as a coarse-loamy, mixed, superactive, mesic Mollic Hapludalf.

Typical Pedon

Onarga fine sandy loam, 2 to 5 percent slopes; at an elevation of 666 feet; 2,032 feet south and 33 feet west of the northeast corner of sec. 17, T. 26 N., R. 10 E.; Iroquois County, Illinois; USGS Onarga West topographic quadrangle; lat. 40 degrees 43 minutes 46 seconds N. and long. 88 degrees 05 minutes 12 seconds W., NAD 27; UTM Zone 16, 0408234 Easting and 4509305 Northing, NAD 83:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) fine sandy loam, dark grayish brown (10YR 4/2) dry; weak very fine granular structure; very friable; moderately acid; abrupt smooth boundary.

A—8 to 13 inches; very dark grayish brown (10YR 3/2) fine sandy loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; very friable; many fine roots; moderately acid; clear smooth boundary.

Bt1—13 to 23 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine prismatic structure parting to weak fine subangular blocky; friable; common fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—23 to 29 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium prismatic structure parting to weak fine subangular blocky; very friable; few fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; gradual smooth boundary.

BC—29 to 33 inches; brownish yellow (10YR 6/6) loamy fine sand; weak medium subangular blocky structure; very friable; few fine roots; strongly acid; clear wavy boundary.

C—33 to 60 inches; yellowish brown (10YR 5/6) and light yellowish brown (10YR 6/4), stratified loamy fine sand and fine sand; single grain; loose; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon or dark surface layer: 7 to 20 inches
Depth to the base of soil development: 27 to 45 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—fine sandy loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—fine sandy loam, loam, or sandy loam

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—stratified sand to fine sandy loam

150B—Onarga fine sandy loam, 2 to 5 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and backslopes

Map Unit Composition

Onarga and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface soil
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have less sand and more silt or clay in the lower two-thirds of the profile
- Soils that have till in the lower part of the profile
- Soils that have slopes of less than 2 percent

Dissimilar soils:
- The somewhat poorly drained Brenton and La Hogue soils on summits and footslopes

Properties and Qualities of the Onarga Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

150C2—Onarga fine sandy loam, 5 to 10 percent slopes, eroded

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Backslopes and shoulders

Map Unit Composition

Onarga and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have till in the lower part of the profile
- Soils that have calcareous sand and gravel in the lower part of the profile
- Soils that have less sand and more silt or clay in the lower two-thirds of the profile
- Soils that have a thicker surface soil

Dissimilar soils:
- The somewhat poorly drained La Hogue soils on summits and footslopes

Properties and Qualities of the Onarga Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

802B—Orthents, loamy, undulating

This map unit consists of areas of disturbed soil material. The soils are classified as fine-loamy, mixed, active, nonacid, mesic Oxyaquic Udorthents. Typically, the surface layer is very dark grayish brown, friable loam about 6 inches thick. The upper part of the underlying material is brown and dark yellowish brown, firm clay loam and loam. The lower part to a depth of 60 inches or more is mottled yellowish brown and brown, firm loam.

Setting

Landform: Areas of leveled land and fill on outwash plains and ground moraines
Position on the landform: Summits and backslopes

Map Unit Composition

Orthents, loamy, and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that contain less sand and more silt or clay throughout the profile
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet or beginning at a depth of more than 5 feet
- Soils that have carbonates at or near the surface
- Soils that have slopes of more than 6 percent

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Fill material
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 3.5 to 5.0 feet, February through April
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Slight

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

802F—Orthents, loamy, steep

This map unit consists of areas of disturbed soil material. The soils are classified as fine-loamy, mixed, active, nonacid, mesic Oxyaquic Udorthents. Typically, the surface layer is very dark grayish brown, friable silt loam about 6 inches thick. The upper part of the underlying material is brown and dark yellowish brown, firm clay loam and silty clay loam. The lower part to a depth of 60 inches or more is mottled yellowish brown and brown, firm loam.

Setting

Landform: Areas of fill on outwash plains and ground moraines
Position on the landform: Backslopes

Map Unit Composition

Orthents, loamy, and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand and more silt or clay throughout the profile

- Soils that have more gravel in the lower one-half of the profile
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet or beginning at a depth of more than 5 feet
- Soils that have slopes of less than 12 percent or more than 30 percent

Properties and Qualities of the Orthents

Parent material: Earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 3.5 to 5.0 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Ozaukee Series

Drainage class: Moderately well drained
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 4 to 70 percent
Taxonomic classification: Fine, illitic, mesic Oxyaquic Hapludalfs
Taxadjunct features: The Ozaukee soil in map unit 530G contains less clay in the particle-size control section than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soil. This soil is classified as a fine-silty, illitic, mesic Oxyaquic Hapludalf.

Typical Pedon

Ozaukee silt loam, 2 to 4 percent slopes; at an elevation of 780 feet; 2,540 feet north and 2,200 feet east of the southwest corner of sec. 31, T. 39 N., R. 10 E.; Du Page County, Illinois; USGS Naperville topographic quadrangle; lat. 41 degrees 49 minutes 15 seconds N. and long. 88 degrees 08 minutes 18 seconds W., NAD 27; UTM Zone 16, 0405447 Easting and 4630502 Northing, NAD 83:

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, yellowish brown (10YR 5/4) dry; moderate very fine and fine granular structure; friable; many very fine and fine roots; neutral; clear smooth boundary.
BE—4 to 10 inches; brown (10YR 4/3) silt loam; weak thick platy structure parting to moderate fine subangular blocky; friable; many very fine roots; few distinct dark

grayish brown (10YR 4/2) coatings on faces of peds; moderately acid; clear smooth boundary.

2Bt1—10 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many distinct brown (10YR 4/3) clay films on faces of peds; 1 percent gravel; slightly acid; abrupt smooth boundary.

2Bt2—16 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films and brown (10YR 4/3) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron-manganese concretions throughout; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 5 percent gravel; neutral; clear smooth boundary.

2Bt3—21 to 27 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) and black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 8 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2Bt4—27 to 33 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) and black (10YR 2/1) very weakly cemented iron-manganese concentrations throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 8 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.

2BCt—33 to 39 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine and medium subangular blocky structure; firm; common very fine roots; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) and black (10YR 2/1) very weakly cemented iron-manganese concentrations throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 6 percent gravel; strongly effervescent; moderately alkaline; abrupt smooth boundary.

2Cd—39 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; few very fine roots; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; many medium white (10YR 8/1) carbonate concretions throughout; 6 percent gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 18 inches
Depth to carbonates: 15 to 40 inches
Depth to the base of soil development: 20 to 45 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4

Chroma—1 to 3
Texture—silt loam

E horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam

2Bt horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam, silty clay, or clay
Content of rock fragments—1 to 10 percent

2Cd horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—2 to 4
Texture—silty clay loam or clay loam
Content of rock fragments—3 to 15 percent

530C2—Ozaukee silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay and more sand or silt in the upper one-half of the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have stratified loamy outwash in the lower part of the profile

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes
- Soils that are severely eroded
- The nearly level, somewhat poorly drained Blount soils on summits and footslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate

Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

530D2—Ozaukee silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay and more sand or silt in the upper one-half of the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that have stratified loamy outwash in the lower part of the profile

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes
- Soils that are severely eroded
- The somewhat poorly drained Blount soils on summits, backslopes, and footslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

530D3—Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that are moderately eroded
- Soils that have less clay and more sand or silt in the subsoil
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that have stratified loamy outwash in the lower part of the profile

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes
- The somewhat poorly drained Blount soils on summits, backslopes, and footslopes
- The well drained Landes soils on flood plains

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 6.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

530E2—Ozaukee silt loam, 12 to 20 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay and more sand or silt in the subsoil
- Soils that have slopes of less than 12 percent or more than 20 percent
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have stratified loamy outwash in the lower part of the profile

Dissimilar soils:
- The somewhat poorly drained Blount soils on summits, backslopes, and footslopes
- The well drained Landes soils on flood plains

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

530F—Ozaukee silt loam, 20 to 30 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that are moderately eroded
- Soils that have slopes of less than 20 percent or more than 30 percent
- Soils that have less clay and more sand or silt in the subsoil
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have stratified loamy outwash in the lower part of the profile

Dissimilar soils:
- The well drained Landes soils on flood plains
- The somewhat poorly drained Blount soils on summits, backslopes, and footslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 7.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

530G—Ozaukee silt loam, 30 to 70 percent slopes

Setting

Landform: End moraines
Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that are moderately eroded
- Soils that have slopes of less than 30 percent or more than 60 percent
- Soils that have less clay and more sand in the subsoil
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have carbonates at a depth of less than 15 inches

Dissimilar soils:
- The well drained Landes soils on flood plains
- The somewhat poorly drained Blount soils on summits, backslopes, and footslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 8.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Parr Series

Drainage class: Moderately well drained
Landform: Ground moraines and end moraines
Parent material: Till with or without a thin mantle of loess or other silty material
Slope range: 2 to 10 percent
Taxonomic classification: Fine-loamy, mixed, active mesic Oxyaquic Argiudolls
Taxadjunct features: The Parr soil in map unit 221B2 has a thinner dark surface layer than is defined as the range for the series, and the Parr soil in map unit 221C3 has a lighter colored surface layer than is defined as the range for the series. These differences, however, do not significantly affect the use or management of the soils. The Parr soil in map unit 221B2 is classified as a fine-loamy, mixed, active,

mesic Mollic Oxyaquic Hapludalf. The Parr soil in map unit 221C3 is classified as a fine-loamy, mixed, active, mesic Oxyaquic Hapludalf.

Typical Pedon

Parr silt loam, 2 to 5 percent slopes, eroded; at an elevation of 735 feet; 2,700 feet south and 100 feet east of the northwest corner of sec. 1, T. 23 N., R. 11 W.; Vermilion County, Illinois; USGS Ambia topographic quadrangle; lat. 40 degrees 28 minutes 58 seconds N. and long. 87 degrees 33 minutes 20 seconds W., NAD 27; UTM Zone 16, 0452904 Easting and 4481500 Northing, NAD 83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam mixed with some brown (10YR 4/3) subsoil material; grayish brown (10YR 5/2) dry; weak very fine granular structure; friable; 3 percent fine and medium gravel; neutral; abrupt smooth boundary.

Bt1—8 to 16 inches; brown (10YR 4/3) clay loam; moderate very fine subangular blocky structure; friable; many faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 3 percent fine and medium gravel; slightly acid; clear smooth boundary.

Bt2—16 to 28 inches; brown (10YR 4/3) clay loam; moderate fine subangular blocky structure; friable; many faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 5 percent fine and medium gravel; slightly acid; gradual smooth boundary.

Bt3—28 to 34 inches; olive brown (2.5Y 4/4) clay loam; moderate medium subangular blocky structure; friable; common faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; 10 percent fine and medium gravel; neutral; gradual smooth boundary.

C—34 to 60 inches; light olive brown (2.5Y 5/3) loam; massive; firm; few faint very dark grayish brown (10YR 3/2) pore linings throughout; common coarse prominent reddish brown (5YR 5/4) masses of oxidized iron in the matrix; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; common medium irregular carbonate concretions throughout; 10 percent fine and medium gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the dark surface layer: 0 to 9 inches
Thickness of the loess or other silty material: Less than 18 inches
Depth to carbonates: 20 to 40 inches
Depth to the base of soil development: 24 to 40 inches

Ap horizon:
Hue—10YR
Value—3; 4 in severely eroded pedons
Chroma—1 to 3
Texture—silt loam; clay loam in severely eroded pedons

Bt horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—clay loam or loam

C horizon:
Hue—10YR or 2.5Y

Value—4 to 6
Chroma—3 or 4
Texture—loam
Content of rock fragments—less than 15 percent

221B2—Parr silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and backslopes

Map Unit Composition

Parr and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker surface layer
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that are more than 40 inches deep to the base of soil development
- Soils that have a seasonal high water table at a depth of 1 to 2 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Parr Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

221C3—Parr clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Parr and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that are moderately eroded
- Soils that are less than 24 inches deep to the base of soil development
- Soils that have stratified loamy outwash in the lower part of the profile

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The nearly level, somewhat poorly drained Flanagan and Raub soils on summits

Properties and Qualities of the Parr Soil

Parent material: Till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Pella Series

Drainage class: Poorly drained
Landform: Outwash plains, ground moraines, and lake plains
Parent material: Loess or other silty material and the underlying outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Pella silty clay loam, 0 to 2 percent slopes; at an elevation of 658 feet; 190 feet north and 2,225 feet west of the southeast corner of sec. 14, T. 27 N., R. 9 E.; Ford County, Illinois; USGS Piper City topographic quadrangle; lat. 40 degrees 48 minutes 27 seconds N. and long. 88 degrees 09 minutes 13 seconds W., NAD 27; UTM Zone 16, 0402698 Easting and 4518025 Northing, NAD 83:

Ap—0 to 7 inches; black (N 2.5/) silty clay loam, dark gray (N 4/) dry; moderate very fine and fine granular structure; friable; slightly acid; abrupt smooth boundary.

A—7 to 12 inches; black (N 2.5/) silty clay loam, dark gray (N 4/) dry; moderate fine and very fine granular structure; friable; neutral; clear smooth boundary.

Bg1—12 to 20 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine and medium prismatic structure parting to moderate fine and very fine angular blocky; friable; few fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bg2—20 to 27 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine and medium prismatic structure parting to moderate fine and medium angular blocky; friable; common medium distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.

Bg3—27 to 33 inches; gray (5Y 6/1) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; friable; thin discontinuous very dark gray (10YR 3/1) krotovina; many medium prominent light olive brown (2.5Y 5/4) masses of oxidized iron and common fine prominent dark yellowish brown (10YR 4/4) masses of oxidized iron and manganese in the matrix; slightly effervescent; slightly alkaline; gradual wavy boundary.

2BCg—33 to 42 inches; gray (5Y 6/1) silt loam with a high sand content; weak medium prismatic structure; friable; moderate medium prominent light olive brown (2.5Y 5/4) and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly effervescent; moderately alkaline; gradual wavy boundary.

2Cg—42 to 60 inches; gray (5Y 6/1), stratified silt loam, loam, and sandy loam; massive; friable; many medium prominent light olive brown (2.5Y 5/4) and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 22 inches
Thickness of loess or other silty material: 20 to 40 inches
Depth to carbonates: 16 to 40 inches
Depth to the base of soil development: 30 to 50 inches

Ap or A horizon:
Hue—10YR, 2.5Y, or N
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam

Bg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam

2Bg or 2BCg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—5 or 6
Chroma—1 to 6

Texture—silt loam, clay loam, silty clay loam, loam, or sandy loam
Content of rock fragments—less than 10 percent

2Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—5 or 6
Chroma—1 to 8
Texture—stratified loamy sand to silty clay loam
Content of rock fragments—less than 15 percent

153A—Pella silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines, lake plains, and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

Pella and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates beginning at a depth of more than 40 inches
- Soils that have till in the lower part of the profile
- Soils that have outwash beginning at a depth of more than 40 inches

Dissimilar soils:
- The calcareous, poorly drained Harpster soils on toeslopes
- The somewhat poorly drained Brenton and Flanagan soils on summits
- The moderately well drained Catlin soils on summits and backslopes

Properties and Qualities of the Pella Soil

Parent material: Loess or other silty material and the underlying outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 6 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May
Ponding (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Penfield Series

Drainage class: Well drained
Landform: Outwash plains and ground moraines
Parent material: Outwash
Slope range: 2 to 5 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Penfield loam, 2 to 5 percent slopes; at an elevation of 685 feet; 910 feet south and 465 feet west of the northeast corner of sec. 30, T. 20 N., R. 14 W.; Champaign County, Illinois; USGS Royal topographic quadrangle; lat. 40 degrees 10 minutes 06 seconds N. and long. 87 degrees 58 minutes 50 seconds W., NAD 27; UTM Zone 16, 0416502 Easting and 4446905 Northing, NAD 83:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; slightly acid; clear smooth boundary.

Bt1—10 to 14 inches; brown (10YR 4/3) clay loam; moderate medium subangular blocky structure parting to moderate very fine subangular blocky; friable; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; neutral; clear smooth boundary.

Bt2—14 to 20 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine prismatic structure parting to moderate very fine angular blocky; firm; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; neutral; clear smooth boundary.

Bt3—20 to 31 inches; yellowish brown (10YR 5/4) clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; 5 percent fine gravel; neutral; abrupt smooth boundary.

Bt4—31 to 44 inches; 80 percent dark yellowish brown (10YR 4/4) sandy clay loam and 20 percent yellowish brown (10YR 5/6) fine sandy loam; moderate coarse prismatic structure parting to weak coarse angular blocky; friable; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; 5 percent fine gravel; neutral; clear smooth boundary.

Bt5—44 to 51 inches; yellowish brown (10YR 5/4) sandy clay loam; weak coarse prismatic structure parting to weak coarse angular blocky; friable; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; common medium black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Btg—51 to 61 inches; 60 percent light brownish gray (10YR 6/2) and 40 percent yellowish brown (10YR 5/6) sandy clay loam; weak coarse prismatic structure parting to weak coarse angular blocky; friable; common distinct very dark gray (10YR 3/1) organo-clay films along root channels and pores; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; neutral; clear smooth boundary.

BCt—61 to 72 inches; strong brown (7.5YR 5/6), stratified fine sandy loam and sandy clay loam; weak coarse angular blocky structure; friable; common distinct very dark gray (10YR 3/1) organo-clay films along root channels and pores; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; common medium faint yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

C—72 to 80 inches; yellowish brown (10YR 5/4 and 5/6) fine sandy loam; massive; very friable; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: More than 35 inches
Depth to the base of soil development: More than 35 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—loam

Bt or Btg horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 8
Texture—clay loam, loam, sandy loam, or silty clay loam

BCt or BC horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture—fine sandy loam, loam, or sandy clay loam

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 to 6
Texture—stratified sand to silt loam

687B—Penfield loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and outwash plains
Position on the landform: Summits and backslopes

Map Unit Composition

Penfield and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner surface soil
- Soils that have less sand and more silt in the upper one-half of the profile
- Soils that have till in the lower part of the profile
- Soils that have a seasonal high water table beginning at a depth of more than 6 feet
- Soils that have slopes of less than 2 percent

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The somewhat poorly drained La Hogue soils on summits and footslopes

Properties and Qualities of the Penfield Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): 3.5 to 6.0 feet below the surface, February through April
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Peotone Series

Drainage class: Very poorly drained
Landform: Ground moraines
Parent material: Colluvium or colluvium over marl
Slope range: 0 to 2 percent
Taxonomic classification: Fine, smectitic, mesic Cumulic Vertic Endoaquolls

Typical Pedon

Peotone silty clay loam, 0 to 2 percent slopes; at an elevation of 707 feet; 315 feet south and 2,233 feet east of the northwest corner of sec. 21, T. 29 N., R. 9 E.; Ford County, Illinois; USGS Cabery topographic quadrangle; lat. 40 degrees 58 minutes 49 seconds N. and long. 88 degrees 12 minutes 00 seconds W., NAD 27; UTM Zone 16, 0399043 Easting and 4537265 Northing, NAD 83:

Ap—0 to 7 inches; black (N 2.5/) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
A—7 to 13 inches; black (N 2.5/) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
Bg1—13 to 27 inches; black (N 2.5/) silty clay loam, dark gray (10YR 4/1) dry; moderate medium angular blocky structure; friable; common very fine roots; neutral; clear smooth boundary.
Bg2—27 to 41 inches; dark gray (10YR 4/1) silty clay; moderate fine prismatic structure; firm; common very fine roots; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.
Bg3—41 to 50 inches; dark gray (10YR 4/1) silty clay; moderate medium prismatic structure; firm; few very fine roots; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium faint dark grayish

brown (10YR 4/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.

Cg—50 to 60 inches; dark gray (10YR 4/1) silty clay loam; massive; firm; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches
Depth to carbonates: More than 30 inches
Depth to the base of soil development: More than 38 inches

Ap or A horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 or 1
Texture—silty clay loam

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 6
Chroma—0 to 2
Texture—silty clay loam or silty clay

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam, silt loam, or silty clay

182A—Peotone mucky silty clay loam, marly substratum, 0 to 2 percent slopes

Setting

Landform: Depressions
Position on the landform: Toeslopes

Map Unit Composition

Peotone and similar soils: 97 percent
Dissimilar soils: 3 percent

Components of Minor Extent

Similar soils:
- Soils that are lighter colored in the upper one-half of the subsoil
- Soils that contain less silt and more clay in the surface soil and subsoil
- Soils that have a thinner subsoil
- Soils that contain less organic matter and more mineral material in the lower part of the profile

Dissimilar soils:
- The somewhat poorly drained Andres and Elliott soils on footslopes and summits

Properties and Qualities of the Peotone Soil

Parent material: Colluvium over marl
Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 16 inches to a depth of 60 inches
Content of organic matter in the surface layer: 7 to 15 percent
Shrink-swell potential: High
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through June
Ponding (depth, months): At the surface to 1 foot above the surface, January through June
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

330A—Peotone silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Toeslopes

Map Unit Composition

Peotone and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that are overlain by light-colored recent deposits
- Soils that have less clay and more silt in the subsurface layer and subsoil
- Soils that are lighter colored in the upper one-half of the subsoil
- Soils that have more organic matter in the subsoil and are marl in the underlying material

Dissimilar soils:
- The somewhat poorly drained Brenton, Elliott, and Flanagan soils on summits

Properties and Qualities of the Peotone Soil

Parent material: Colluvium
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 5 to 7 percent
Shrink-swell potential: High
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through June

Ponding (depth, months): At the surface to 0.5 foot above the surface, January through June (fig. 8)
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

864—Pits, quarry

This map unit is in nearly level and gently sloping areas from which limestone has been extracted. The pits have nearly vertical sidewalls. Some pits are active, and others have been abandoned. Some contain water. Some of the larger abandoned pits are used as recreational areas.

Map Unit Composition

Pits, quarry: 92 percent
Dissimilar components: 8 percent

Figure 8.—Peotone soils are subject to frequent ponding in the spring.

Components of Minor Extent

Dissimilar components:
- The well drained, loamy Orthents on summits and backslopes
- Bodies of water

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

865—Pits, gravel

This map unit is in nearly level and gently sloping areas from which gravel has been extracted. The pits have nearly vertical sidewalls. Some pits are active, and others have been abandoned. Some contain water. Some of the larger abandoned pits are used as recreational areas.

Map Unit Composition

Pits, gravel: 92 percent
Dissimilar components: 8 percent

Components of Minor Extent

Dissimilar components:
- The well drained, loamy Orthents on summits and backslopes
- The poorly drained Drummer soils on toeslopes
- Bodies of water

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Plano Series

Drainage class: Well drained
Landform: Outwash plains and stream terraces
Parent material: Loess over outwash
Slope range: 2 to 5 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Plano silt loam, 0 to 2 percent slopes; at an elevation of 715 feet; 1,200 feet south and 1,920 feet east of the northwest corner of sec. 13, T. 12 N., R. 7 E.; Stark County, Illinois; USGS Castleton, Illinois, topographic quadrangle; lat. 41 degrees 01 minute 45 seconds N. and long. 89 degrees 39 minutes 00 seconds W., NAD 27; UTM Zone 16, 0277210 Easting and 4545382 Northing, NAD 83:

Ap—0 to 9 inches; very dark brown (10YR 2/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine roots; slightly acid; clear smooth boundary.

A—9 to 14 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; many very fine roots; slightly acid; clear smooth boundary.

Bt1—14 to 19 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—19 to 31 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt3—31 to 43 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; common distinct very pale brown (10YR 7/3) (dry) silt coatings on faces of peds; few fine faint yellowish brown (10YR 5/4) masses of oxidized iron throughout; slightly acid; clear smooth boundary.

Bt4—43 to 49 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium prismatic structure; friable; few very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; few distinct very pale brown (10YR 7/3) (dry) silt coatings on faces of peds; slightly acid; clear smooth boundary.

2Bt5—49 to 53 inches; dark yellowish brown (10YR 4/4) clay loam; weak medium prismatic structure; friable; few fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.

2BCt—53 to 60 inches; brown (7.5YR 4/4) sandy loam; weak medium subangular blocky structure; very friable; many distinct dark yellowish brown (10YR 3/4) clay bridges between sand grains; 5 percent gravel; neutral; gradual smooth boundary.

2C—60 to 72 inches; stratified yellowish brown (10YR 5/6) and brown (7.5YR 4/4) sandy loam, loam, and loamy sand; massive; friable; 12 percent gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess: 40 to 60 inches
Depth to the base of soil development: 44 to 70 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam or silt loam

2Bt or 2BC horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 to 6
Texture—loam, sandy loam, or clay loam
Content of rock fragments—2 to 15 percent

2C horizon:
Hue—7.5YR, 10YR, or 2.5Y

Value—3 to 5
Chroma—3 to 6
Texture—stratified loamy sand to clay loam
Content of rock fragments—3 to 15 percent

199B—Plano silt loam, 2 to 5 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and shoulders

Map Unit Composition

Plano and similar soils: 91 percent
Dissimilar soils: 9 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface soil
- Soils that have till in the lower part of the profile
- Soils that have outwash at a depth of less than 40 inches
- Soils that have slopes of less than 2 percent
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

Dissimilar soils:
- The poorly drained Drummer and Sable soils on toeslopes
- The somewhat poorly drained Elburn soils on summits and footslopes

Properties and Qualities of the Plano Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Proctor Series

Drainage class: Well drained
Landform: Outwash plains and stream terraces
Parent material: Loess over outwash

Slope range: 0 to 10 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Proctor soil in map unit 148C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Mollic Hapludalf.

Typical Pedon

Proctor silt loam, 2 to 5 percent slopes; at an elevation of 705 feet; 204 feet north and 2,460 feet west of the southeast corner of sec. 3, T. 11 N., R. 6 E.; Peoria County, Illinois; USGS Princeville topographic quadrangle; lat. 40 degrees 57 minutes 37 seconds N. and long. 89 degrees 48 minutes 07 seconds W., NAD 27; UTM Zone 16, 0264189 Easting and 4538133 Northing, NAD 83:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common very fine roots; moderately acid; clear smooth boundary.
A—8 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
Bt1—11 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine subangular blocky structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.
Bt2—16 to 23 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine and fine subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
Bt3—23 to 28 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
2Bt4—28 to 33 inches; yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; friable; few very fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
2Bt5—33 to 46 inches; strong brown (7.5YR 5/6), stratified loam and sandy loam; weak coarse subangular blocky structure; very friable; few very fine roots; common faint brown (7.5YR 4/4) clay films on faces of peds; slightly acid; gradual smooth boundary.
2C—46 to 60 inches; strong brown (7.5YR 5/6), stratified sandy loam and loamy sand; massive; very friable; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon or dark surface layer: 7 to 20 inches
Thickness of the loess: 20 to 40 inches
Depth to carbonates: More than 40 inches
Depth to the base of soil development: 40 to 65 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt horizon:
Hue—7.5YR or 10YR

Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt or 2BC horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—loam, clay loam, or sandy loam or stratified with these textures
Content of rock fragments—less than 10 percent

2C horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—stratified loam to sandy loam
Content of rock fragments—less than 15 percent

148A—Proctor silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits

Map Unit Composition

Proctor and similar soils: 85 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have till in the lower part of the profile
- Soils that have outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of 3.5 to 6.0 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The somewhat poorly drained Brenton soils on summits and footslopes

Properties and Qualities of the Proctor Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

148B—Proctor silt loam, 2 to 5 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and shoulders

Map Unit Composition

Proctor and similar soils: 85 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface soil
- Soils that have till in the lower part of the profile
- Soils that have outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have slopes of less than 2 percent
- Soils that have a seasonal high water table at a depth of 3.5 to 6.0 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The somewhat poorly drained Brenton soils on summits and footslopes

Properties and Qualities of the Proctor Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

148C2—Proctor silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Proctor and similar soils: 85 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker surface soil
- Soils that have till in the lower part of the profile
- Soils that have outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have slopes of less than 5 percent

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The somewhat poorly drained Brenton soils on summits and footslopes

Properties and Qualities of the Proctor Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Rantoul Series

Drainage class: Very poorly drained
Landform: Ground moraines and lake plains
Parent material: Colluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine, smectitic, mesic Cumulic Vertic Endoaquolls

Typical Pedon

Rantoul silty clay, 0 to 2 percent slopes; at an elevation of 653 feet; 111 feet south and 1,612 feet east of the northwest corner of sec. 29, T. 30 N., R. 7 E.; Livingston County, Illinois; USGS Dwight topographic quadrangle; lat. 41 degrees 02 minutes 59 seconds N. and long. 88 degrees 27 minutes 04 seconds W., NAD 27; UTM Zone 16, 0378046 Easting and 4545293 Northing, NAD 83:

Ap—0 to 8 inches; black (N 2.5/) silty clay, dark gray (10YR 4/1) dry; moderate fine granular structure; firm; few very fine roots; neutral; abrupt smooth boundary.

A—8 to 17 inches; black (N 2.5/) silty clay, dark gray (10YR 4/1) dry; moderate medium granular structure; firm; few very fine roots; few fine very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; neutral; clear smooth boundary.

Bg1—17 to 26 inches; very dark gray (10YR 3/1) silty clay, gray (10YR 5/1) dry; strong medium prismatic structure parting to strong fine and medium subangular blocky; firm; few very fine roots; many distinct black (N 2.5/) organic coatings on faces of peds; few fine very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; few coarse prominent olive (5Y 4/3) masses of oxidized iron and manganese and common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; neutral; clear smooth boundary.

Bg2—26 to 31 inches; dark gray (5Y 4/1) silty clay; strong medium prismatic structure parting to strong medium subangular blocky; firm; few very fine roots; many distinct very dark gray (5Y 3/1) organic coatings on faces of peds; few fine very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; common fine and medium prominent light olive brown (2.5Y 5/6) and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; neutral; clear smooth boundary.

Bg3—31 to 40 inches; gray (5Y 5/1) silty clay; strong medium prismatic structure parting to strong medium angular blocky; firm; few very fine roots; common distinct discontinuous dark gray (5Y 4/1) slickensides on faces of peds; few fine very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; 2 percent gravel; neutral; clear smooth boundary.

Bg4—40 to 47 inches; variegated dark gray (5Y 4/1) and gray (5Y 5/1) silty clay; moderate medium and coarse prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; common faint discontinuous dark gray (5Y 4/1) slickensides on faces of peds; few fine very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; common fine prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; 3 percent gravel; slightly alkaline; abrupt smooth boundary.

BCg—47 to 60 inches; variegated gray (5Y 5/1) and yellowish brown (10YR 5/6) silty clay; weak coarse prismatic structure parting to weak coarse angular blocky; very firm; common faint dark gray (5Y 4/1) slickensides on vertical faces of peds; few fine very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; 3 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches
Depth to carbonates: 34 to 60 inches
Depth to the base of soil development: 36 to 70 inches

Ap or A horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3

Chroma—0 or 1
Texture—silty clay

Bg horizon:
Hue—2.5Y, 5Y, or N
Value—2 to 5
Chroma—0 to 2
Texture—silty clay or clay

BCg or Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay, silty clay loam, or clay

238A—Rantoul silty clay, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Toeslopes

Map Unit Composition

Rantoul and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have more organic matter in the subsoil and have marl in the lower part of the profile
- Soils that are lighter colored in the upper part of the subsoil
- Soils that have less clay and more silt in the subsoil

Dissimilar soils:
- The somewhat poorly drained Clarence and Swygert soils on summits, backslopes, and footslopes

Properties and Qualities of the Rantoul Soil

Parent material: Colluvium
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 7 percent
Shrink-swell potential: High
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through June
Ponding (depth, months): At the surface to 0.5 foot above the surface, January through June
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric

Raub Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines
Parent material: Loess over till
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Raub silt loam, 0 to 2 percent slopes; at an elevation of 680 feet; 2,550 feet north and 1,690 feet east of the southwest corner of sec. 19, T. 20 N., R. 14 W.; Champaign County, Illinois; USGS Royal topographic quadrangle; lat. 40 degrees 10 minutes 40 seconds N. and long. 87 degrees 59 minutes 18 seconds W., NAD 27; UTM Zone 16, 0415852 Easting and 4447961 Northing, NAD 83:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and very fine subangular blocky structure; friable; slightly acid; clear smooth boundary.

A—10 to 18 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; friable; slightly acid; clear smooth boundary.

Bt1—18 to 22 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few distinct very dark gray (10YR 3/1) organo-clay films lining pores; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine distinct and prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; moderately acid; abrupt smooth boundary.

Bt2—22 to 32 inches; yellowish brown (10YR 5/4) silty clay loam; strong fine and medium angular blocky structure; firm; many distinct brown (10YR 4/3) clay films on faces of peds; few fine rounded black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; few fine distinct dark grayish brown (10YR 4/2) and few fine faint brown (10YR 5/3) iron depletions in the matrix; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

2Bt3—32 to 40 inches; yellowish brown (10YR 5/4) clay loam; weak medium subangular blocky structure; firm; common distinct black (10YR 2/1) organo-clay films lining root channels; many medium irregular black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; few coarse prominent light olive gray (5Y 6/2) iron depletions in the matrix; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine pebbles; neutral; clear smooth boundary.

2BC—40 to 50 inches; yellowish brown (10YR 5/4) clay loam; weak medium and coarse subangular blocky structure; firm; common fine irregular black (7.5YR 2.5/1) very weakly cemented iron-manganese nodules throughout; many medium distinct gray (10YR 5/1) iron depletions in the matrix; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine pebbles; slightly effervescent; slightly alkaline; clear smooth boundary.

2C—50 to 60 inches; yellowish brown (10YR 5/4) and gray (5Y 6/1) loam; massive; firm; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches
Thickness of the loess: 22 to 40 inches
Depth to carbonates: 40 to 70 inches
Depth to the base of soil development: 40 to 70 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—2 to 8
Texture—silty clay loam

2Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—clay loam or loam
Content of rock fragments—less than 10 percent

2BC or 2C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—1 to 4
Texture—loam or clay loam
Content of rock fragments—3 to 15 percent

481A—Raub silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and footslopes

Map Unit Composition

Raub and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner surface soil
- Soils that have till beginning at a depth of less than 22 inches or more than 40 inches
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Raub Soil

Parent material: Loess over till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Rossburg Series

Drainage class: Well drained
Landform: Flood plains
Parent material: Loamy alluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluventic Hapludolls

Typical Pedon

Rossburg loam, 0 to 2 percent slopes, occasionally flooded; at an elevation of 524 feet; 1,800 feet north and 1,600 feet east of the southwest corner of sec. 26, T. 19 N., R. 11 W.; Vermilion County, Illinois; USGS Danville SE topographic quadrangle; lat. 40 degrees 04 minutes 45 seconds N. and long. 87 degrees 34 minutes 35 seconds W., NAD 27; UTM Zone 16, 0450864 Easting and 4436707 Northing, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; moderate very fine granular structure; friable; 1 percent fine gravel; neutral; abrupt smooth boundary.
A—7 to 11 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to moderate very fine granular; friable; 1 percent fine gravel; neutral; clear smooth boundary.
Bw1—11 to 23 inches; brown (10YR 4/3) loam; moderate fine subangular blocky structure; friable; many faint dark brown (10YR 3/3) organic coatings on faces of peds; 1 percent fine gravel; neutral; gradual smooth boundary.
Bw2—23 to 39 inches; brown (10YR 4/3) loam; moderate medium subangular blocky structure; friable; common faint dark brown (10YR 3/3) organic coatings on faces of peds; 1 percent fine gravel; neutral; diffuse smooth boundary.

Bw3—39 to 55 inches; brown (10YR 4/3) loam; moderate medium subangular blocky structure; friable; few faint dark brown (10YR 3/3) organic coatings on faces of peds; 1 percent fine gravel; neutral; diffuse smooth boundary.
C—55 to 60 inches; brown (10YR 4/3), stratified loam and silt loam; massive; friable; 1 percent fine gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates: 24 to more than 60 inches
Depth to the base of soil development: 24 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—loam

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—loam, silt loam, or sandy loam
Content of rock fragments—less than 10 percent

C horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified sandy loam to silt loam
Content of rock fragments—less than 15 percent

3473A—Rossburg silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Rossburg and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker surface soil and are darker in the upper part of the subsoil
- Soils that have less sand and more silt in the upper one-half of the profile
- Soils that have less clay and silt and more sand throughout the profile
- Soils that have calcareous sand and gravel in the lower part of the profile
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

Dissimilar soils:
- The poorly drained Sawmill soils on flood plains
- The somewhat poorly drained Shaffton soils on flood plains

Properties and Qualities of the Rossburg Soil

Parent material: Loamy alluvium

Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 5 percent
Shrink-swell potential: Low
Ponding: None
Flooding (frequency, months): Frequent, November through June
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

8473A—Rossburg loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Rossburg and similar soils: 93 percent
Dissimilar soils: 7 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker surface soil and are darker in the upper part of the subsoil
- Soils that have less sand and more silt in the upper one-half of the profile
- Soils that have less clay and silt and more sand throughout the profile
- Soils that have calcareous sand and gravel in the lower part of the profile
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

Dissimilar soils:
- The poorly drained Sawmill soils on flood plains
- The somewhat poorly drained Shaffton soils on flood plains

Properties and Qualities of the Rossburg Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 5 percent
Shrink-swell potential: Low
Ponding: None
Flooding (frequency, months): Occasional, November through June

Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Rowe Series

Drainage class: Poorly drained
Landform: Ground moraines and lake plains
Parent material: Colluvium or lacustrine deposits and the underlying till
Slope range: 0 to 2 percent
Taxonomic classification: Fine, mixed, superactive, mesic Vertic Argiaquolls

Typical Pedon

Rowe silty clay loam, 0 to 2 percent slopes; at an elevation of 790 feet; 149 feet north and 432 feet west of the southeast corner of sec. 31, T. 24 N., R. 10 E.; Iroquois County, Illinois; USGS Paxton topographic quadrangle; lat. 40 degrees 29 minutes 18 seconds N. and long. 88 degrees 05 minutes 59 seconds W., NAD 27; UTM Zone 16, 0406796 Easting and 4482544 Northing, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; abrupt smooth boundary.

A—7 to 14 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak medium and fine subangular blocky structure parting to moderate fine granular; friable; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.

2Btg1—14 to 20 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium and fine subangular blocky structure; friable; few fine roots; many distinct dark gray (10YR 4/1) clay films and very dark gray (10YR 3/1) organic coatings on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

2Btg2—20 to 29 inches; grayish brown (2.5Y 5/2) clay; moderate coarse and medium prismatic structure parting to moderate medium and fine angular blocky; firm; few fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common distinct dark gray (10YR 4/1) slickensides on faces of peds; common fine prominent yellowish brown (10YR 5/8) and light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

2Btg3—29 to 40 inches; grayish brown (2.5Y 5/2) silty clay; moderate coarse and medium prismatic structure parting to moderate medium angular blocky; firm; few fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings along root channels; common distinct dark grayish brown (2.5Y 4/2) slickensides on faces of peds; common fine prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; slightly alkaline; gradual smooth boundary.

2BCtg—40 to 48 inches; grayish brown (2.5Y 5/2) silty clay; moderate coarse and medium prismatic structure; very firm; common faint dark grayish brown (2.5Y 4/2) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; common fine faint gray (5Y 5/1) iron depletions in the matrix; common fine white soft masses of calcium carbonate throughout; slightly effervescent; slightly alkaline; gradual wavy boundary.

2Cg—48 to 63 inches; yellowish brown (10YR 5/6), gray (5Y 5/1), and dark grayish brown (2.5Y 4/2) silty clay; massive; very firm; few fine very weakly cemented iron-manganese nodules throughout; common fine soft masses of calcium carbonate throughout; slightly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the colluvium or lacustrine deposits: 10 to 40 inches
Depth to carbonates: 25 to 55 inches
Depth to the base of soil development: 30 to 60 inches

Ap or A horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam

2Btg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 4
Texture—silty clay or clay

2BCtg or 2BCg horizon:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay or clay

2Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay or clay

230A—Rowe silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Toeslopes

Map Unit Composition

Rowe and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have till beginning at a depth of more than 40 inches
- Soils that have a thinner or lighter colored surface soil

- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have less clay and more silt or sand in the subsoil

Dissimilar soils:

- The very poorly drained Rantoul soils on toeslopes
- The somewhat poorly drained Clarence and Mokena soils on summits and footslopes

Properties and Qualities of the Rowe Soil

Parent material: Colluvium or lacustrine deposits and the underlying till
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Impermeable
Permeability below a depth of 60 inches: Impermeable or very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: High
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May
Ponding is deepest (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric

Sabina Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and till plains
Parent material: Loess over till
Slope range: 0 to 2 percent
Taxonomic classification: Fine, smectitic, mesic Aeric Epiaqualfs

Typical Pedon

Sabina silt loam, 0 to 2 percent slopes; at an elevation of 665 feet; 1,785 feet north and 36 feet east of the southwest corner of sec. 13, T. 16 N., R. 7 E.; Douglas County, Illinois; USGS Tuscola topographic quadrangle; lat. 39 degrees 50 minutes 25 seconds N. and long. 88 degrees 22 minutes 05 seconds W., NAD 27; UTM Zone 16, 0382945 Easting and 4410917 Northing, NAD 83:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate very fine granular structure; friable; strongly acid; abrupt smooth boundary.

E—8 to 12 inches; grayish brown (10YR 5/2) silt loam; moderate fine granular structure; friable; few fine iron-manganese concretions throughout; strongly acid; clear smooth boundary.

BE—12 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine subangular blocky structure; firm; few fine iron-manganese concretions throughout; common fine distinct dark grayish brown (2.5Y 4/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Btg1—16 to 25 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; few fine iron-manganese concretions throughout; common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

Btg2—25 to 37 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium subangular blocky structure; firm; many prominent very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine iron-manganese concretions throughout; few fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

Bt1—37 to 43 inches; light olive brown (2.5Y 5/4) silty clay loam; weak and moderate medium and coarse subangular blocky structure; firm; common prominent very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine iron-manganese concretions throughout; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

2Bt2—43 to 50 inches; variegated yellowish brown (10YR 5/4), light olive brown (2.5Y 5/4), and dark grayish brown (10YR 4/2) clay loam; weak coarse subangular blocky structure; firm; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 3 percent gravel; neutral; gradual irregular boundary.

2C—50 to 80 inches; light olive brown (2.5Y 5/3) loam; massive; very firm; common medium rounded black (7.5YR 2.5/1) moderately cemented iron-manganese concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium distinct gray (10YR 6/1) iron depletions in the matrix; common medium irregular white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; 7 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 40 to 60 inches
Depth to carbonates: 40 to 75 inches
Depth to the base of soil development: 44 to 75 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—2
Texture—silt loam

E horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—1 to 3
Texture—silt loam

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—silty clay loam or silty clay

2Bt, 2Btg, 2BC, or 2BCg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—2 to 4
Texture—clay loam, loam, silty clay loam, or silt loam
Content of rock fragments—less than 5 percent

2C or 2Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—2 to 4
Texture—clay loam, loam, or silt loam
Content of rock fragments—less than 10 percent

236A—Sabina silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and till plains
Position on the landform: Summits and footslopes

Map Unit Composition

Sabina and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have less clay and more silt in the subsoil
- Soils that have till beginning at a depth of less than 40 inches or more than 60 inches
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Sabina Soil

Parent material: Loess over till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: High
Perched seasonal high water table (depth, months): 0.5 foot to 2.0 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

Sable Series

Drainage class: Poorly drained
Landform: Ground moraines
Parent material: Loess
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Sable silty clay loam, 0 to 2 percent slopes; at an elevation of 732 feet; 1,281 feet south and 97 feet west of the northeast corner of sec. 14, T. 9 N., R. 3 W.; Warren County, Illinois; USGS Kirkwood East topographic quadrangle; lat. 40 degrees 46 minutes 22 seconds N. and long. 90 degrees 41 minutes 34 seconds W., NAD 27; UTM Zone 15, 0694709 Easting and 4516111 Northing, NAD 83:

Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; firm; moderately acid; abrupt smooth boundary.

A—8 to 19 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine angular blocky structure; firm; few fine rounded dark reddish brown (5YR 3/2) very weakly cemented iron-manganese concretions throughout; slightly acid; clear smooth boundary.

AB—19 to 23 inches; very dark gray (10YR 3/1) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine angular blocky structure; firm; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine rounded dark reddish brown (5YR 3/2) very weakly cemented iron-manganese concretions throughout; slightly acid; clear smooth boundary.

Bg—23 to 29 inches; dark gray (10YR 4/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; common fine and medium rounded dark reddish brown (5YR 3/2) very weakly cemented iron-manganese concretions throughout; common medium distinct brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; few medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

Btg1—29 to 38 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few faint dark gray (10YR 4/1) clay films on faces of peds; many fine and medium rounded dark reddish brown (5YR 3/2) very weakly cemented iron-manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear wavy boundary.

Btg2—38 to 47 inches; gray (N 5/) silt loam; weak medium prismatic structure parting to weak medium and coarse angular blocky; firm; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine rounded dark reddish brown (5YR 3/2) very weakly cemented iron-manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly alkaline; gradual smooth boundary.

Cg—47 to 60 inches; gray (N 6/) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 12 to 24 inches
Depth to carbonates: More than 40 inches
Depth to the base of soil development: 40 to 60 inches

Ap, A, or AB horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 or 1
Texture—silty clay loam

Bg, Btg, or BCg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam or silt loam

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silt loam or silty clay loam

68A—Sable silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Toeslopes

Map Unit Composition

Sable and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker surface soil
- Soils that have less clay and more silt in the surface soil
- Soils that have less silt and more sand in the lower part of the profile
- Soils that have carbonates at a depth of less than 40 inches

Dissimilar soils:
- The somewhat poorly drained Ipava and Keomah soils on summits

Properties and Qualities of the Sable Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 5 to 6 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May

Ponding (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Sawmill Series

Drainage class: Poorly drained
Landform: Flood plains
Parent material: Silty alluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

Typical Pedon

Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 535 feet; 300 feet south and 750 feet east of the northwest corner of sec. 20, T. 15 N., R. 4 W.; Sangamon County, Illinois; USGS New City topographic quadrangle; lat. 39 degrees 44 minutes 34 seconds N. and long. 89 degrees 34 minutes 15 seconds W., NAD 27; UTM Zone 16, 0279712 Easting and 4402375 Northing, NAD 83:

Ap—0 to 10 inches; very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) silty clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure; firm; few fine roots; few subrounded pebbles 1 to 3 millimeters in diameter; slightly acid; clear smooth boundary.

A1—10 to 17 inches; black (10YR 2/1) and very dark grayish brown (10YR 3/2) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; firm; few fine roots; few fine rounded black (7.5YR 2.5/1) weakly cemented iron-manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few subrounded pebbles 1 to 3 millimeters in diameter; neutral; clear smooth boundary.

A2—17 to 25 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium angular blocky structure; firm; few fine roots; few fine rounded black (7.5YR 2.5/1) weakly cemented iron-manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

AB—25 to 32 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium prismatic structure parting to moderate fine subangular blocky; firm; few fine roots; few fine rounded black (7.5YR 2.5/1) weakly cemented iron-manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bg—32 to 40 inches; dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; firm; few fine roots;

common faint very dark gray (10YR 3/1) organic coatings on faces of peds; few fine rounded black (7.5YR 2.5/1) weakly cemented iron-manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Btg1—40 to 49 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine rounded black (7.5YR 2.5/1) weakly cemented iron-manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) and common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Btg2—49 to 58 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure; firm; common distinct gray (10YR 5/1) clay films on faces of peds; few fine rounded black (7.5YR 2.5/1) weakly cemented iron-manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Cg—58 to 65 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; very dark gray (10YR 3/1) organic coatings in channel linings and fillings; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron lining pores; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches
Depth to the base of soil development: 36 to 60 inches

Ap, A, or AB horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam

Bg or Btg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—1 or 2
Texture—silty clay loam

Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—1 or 2
Texture—silty clay loam or clay loam

3107A—Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Sawmill and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner surface soil
- Soils that have less silt and more clay or sand in the upper two-thirds of the profile
- Soils that are subject to occasional flooding

Dissimilar soils:
- The well drained Landes soils on flood plains
- The somewhat poorly drained Shaffton soils on flood plains

Properties and Qualities of the Sawmill Soil

Parent material: Silty alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 7.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May
Ponding (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding (frequency, months): Frequent, November through June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

Saybrook Series

Drainage class: Moderately well drained
Landform: Ground moraines
Parent material: Loess over till
Slope range: 2 to 5 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Taxadjunct features: The Saybrook soils in this survey area have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs.

Typical Pedon

Saybrook silt loam, 2 to 5 percent slopes; at an elevation of 698 feet; 2,500 feet south and 1,300 feet east of the northwest corner of sec. 3, T. 16 N., R. 7 E.; Bureau County, Illinois; USGS Manlius topographic quadrangle; lat. 41 degrees 24 minutes 07.2 seconds N. and long. 89 degrees 40 minutes 48.8 seconds W., NAD 27; UTM Zone 16, 0275946 Easting and 4586856 Northing, NAD 83:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.

AB—10 to 15 inches; very dark brown (10YR 2/2) and brown (10YR 4/3) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine subangular blocky structure; friable; neutral; clear wavy boundary.

Bt1—15 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common distinct very dark brown (10YR 2/2) organo-clay films on faces of peds; common faint brown (10YR 4/3) clay films on faces of peds; slightly acid; clear wavy boundary.

Bt2—21 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common faint brown (10YR 4/3) clay films on faces of peds; moderately acid; clear wavy boundary.

Bt3—26 to 30 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium and coarse subangular blocky structure; friable; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common prominent irregular black (7.5YR 2.5/1) very weakly cemented masses of iron-manganese accumulation throughout; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; slightly acid; clear wavy boundary.

Bt4—30 to 32 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common prominent irregular black (7.5YR 2.5/1) very weakly cemented masses of iron-manganese accumulation throughout; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear wavy boundary.

2Bt5—32 to 36 inches; brown (7.5YR 4/4) clay loam; weak medium subangular blocky structure; friable; few faint brown (7.5YR 4/3) clay films on faces of peds; common distinct irregular black (7.5YR 2.5/1) very weakly cemented masses of iron-manganese accumulation throughout; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly effervescent; slightly alkaline; clear wavy boundary.

2C—36 to 60 inches; brown (7.5YR 4/4) loam; massive; friable; common distinct irregular black (7.5YR 2.5/1) very weakly cemented masses of iron-manganese accumulation throughout; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; many medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the dark surface layer: 7 to 9 inches
Thickness of the loess: 20 to 40 inches
Depth to carbonates: 22 to 40 inches
Depth to the base of soil development: 24 to 40 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam

2Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—clay loam
Content of rock fragments—less than 10 percent

2C horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—loam
Content of rock fragments—less than 15 percent

145B2—Saybrook silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes and summits

Map Unit Composition

Saybrook and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker surface soil
- Soils that are more than 40 inches deep to the base of soil development
- Soils that have till beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have a seasonal high water table at a depth of 1 to 2 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Saybrook Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Selma Series

Drainage class: Poorly drained
Landform: Outwash plains and stream terraces
Parent material: Outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Selma loam, 0 to 2 percent slopes; at an elevation of 656 feet; 52 feet south and 160 feet west of the northeast corner of sec. 18, T. 28 N., R. 10 E.; Iroquois County, Illinois; USGS Piper City NE topographic quadrangle; lat. 40 degrees 54 minutes 36 seconds N. and long. 88 degrees 06 minutes 44 seconds W., NAD 27; UTM Zone 16, 0406337 Easting and 4529366 Northing, NAD 83:

Ap—0 to 6 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; gradual smooth boundary.

A—6 to 13 inches; black (10YR 2/1) clay loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure; friable; common fine roots; neutral; gradual wavy boundary.

Btg1—13 to 19 inches; dark grayish brown (2.5Y 4/2) clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; many prominent very dark gray (2.5Y 3/1) organo-clay films on faces of peds and in pores; few fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; neutral; gradual wavy boundary.

Btg2—19 to 28 inches; grayish brown (2.5Y 5/2) loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; many prominent dark gray (2.5Y 4/1) clay films on faces of peds; few fine light olive brown (2.5Y 5/4) iron-manganese nodules throughout; common medium distinct olive brown (2.5Y 4/4) masses of oxidized iron and manganese in the matrix; slightly alkaline; gradual wavy boundary.

Btg3—28 to 39 inches; grayish brown (2.5Y 5/2) loam; weak fine and medium subangular blocky structure; friable; common fine roots; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; few fine dark yellowish brown (10YR 4/6) iron-manganese nodules throughout; black (N 2.5/) krotovina at a depth of 30 to 39 inches; few fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; slightly alkaline; gradual wavy boundary.

BCtg—39 to 44 inches; grayish brown (2.5Y 5/2) loam; weak medium subangular blocky structure; friable; few very fine roots; few faint dark gray (2.5Y 4/1) clay films on faces of peds; few fine dark yellowish brown (10YR 4/6) iron-manganese nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; strongly effervescent; slightly alkaline; gradual wavy boundary.

Cg1—44 to 54 inches; 55 percent dark gray (2.5Y 4/1), 35 percent gray (2.5Y 5/1), and 10 percent light yellowish brown (2.5Y 6/4), stratified sandy loam and loamy sand; massive in the sandy loam and single grain in the loamy sand; friable in the sandy loam and loose in the loamy sand; few very fine roots; very strongly effervescent; moderately alkaline; gradual wavy boundary.

Cg2—54 to 80 inches; 45 percent dark gray (2.5Y 4/1), 45 percent gray (2.5Y 5/1), and 10 percent light olive brown (2.5Y 5/6), stratified silt loam, sandy loam, and loamy sand; massive in the silt loam and sandy loam and single grain in the loamy sand; friable in the silt loam and sandy loam and loose in the loamy sand; few very fine roots; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates: More than 30 inches
Depth to the base of soil development: 35 to 55 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loam or clay loam

Bg, Btg, BCg, or BCtg horizon:
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—loam, silty clay loam, clay loam, or sandy loam
Content of rock fragments—less than 10 percent

Cg or C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified sand to silt loam
Content of rock fragments—less than 15 percent

125A—Selma loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Toeslopes

Map Unit Composition

Selma and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have till in the lower part of the profile
- Soils that have less sand and more silt in the upper two-thirds of the profile
- Soils that have a thinner surface soil

Dissimilar soils:
- The somewhat poorly drained Brenton and La Hogue soils on summits and footslopes
- The well drained Jasper soils on summits

Properties and Qualities of the Selma Soil

Parent material: Outwash
Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 6 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): At the surface to 1 foot below the surface, January through May
Ponding (depth, months): At the surface to 0.5 foot above the surface, January through May
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Senachwine Series

Drainage class: Well drained
Landform: Ground moraines and end moraines
Parent material: Till with or without a thin mantle of loess or other silty material
Slope range: 5 to 35 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Senachwine silt loam, 10 to 18 percent slopes, eroded; at an elevation of 863 feet; 1,345 feet south and 1,040 feet west of the northeast corner of sec. 21, T. 15 N., R. 8 E.; Bureau County, Illinois; USGS Wyanet topographic quadrangle; lat. 41 degrees 16 minutes 25.4 seconds N. and long. 89 degrees 34 minutes 18 seconds W., NAD 27; UTM Zone 16, 0284598 Easting and 4572325 Northing, NAD 83:

Ap—0 to 6 inches; mixed brown (10YR 4/3) and yellowish brown (10YR 5/4) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; common fine roots; neutral; abrupt smooth boundary.
Bt1—6 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
2Bt2—15 to 28 inches; brown (7.5YR 5/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; many faint brown (7.5YR 4/4) clay films on faces of peds; few fine rounded black (N 2.5/) weakly cemented iron-manganese concretions throughout; neutral; clear smooth boundary.
2BCt—28 to 34 inches; brown (7.5YR 5/4) loam; weak coarse prismatic structure; firm; few fine roots; common faint brown (7.5YR 4/4) clay films on faces of peds; 5 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
2C—34 to 60 inches; brown (7.5YR 5/4) loam; massive; firm; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 18 inches
Depth to carbonates: 20 to 40 inches
Depth to the base of soil development: 24 to 40 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—1 to 4
Texture—silt loam

E horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

Bt, BCt, BC, 2Bt, 2BCt, or 2BC horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, loam, or silty clay loam

C or 2C horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam

618C2—Senachwine silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand and more silt in the upper one-half of the profile
- Soils that have a darker surface layer
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have slopes of more than 10 percent

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The somewhat poorly drained Sabina soils on summits and footslopes
- Soils that are severely eroded

Properties and Qualities of the Senachwine Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

618C3—Senachwine clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand and more silt in the upper part of the profile
- Soils that are moderately eroded
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have carbonates at a depth of less than 20 inches
- Soils that have slopes of more than 10 percent
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The somewhat poorly drained Sabina soils on summits and footslopes

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.3 to 1.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

618D2—Senachwine silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less silt and more sand in the upper part of the profile
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have carbonates at a depth of less than 20 inches
- Soils that have slopes of less than 10 percent or more than 18 percent

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The poorly drained Sawmill soils on flood plains
- Soils that are severely eroded
- The gently sloping, moderately well drained Xenia soils on summits and backslopes
- The well drained Landes soils on flood plains

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate

Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

618E2—Senachwine silt loam, 18 to 25 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less silt and more sand in the upper part of the profile
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have carbonates at a depth of less than 20 inches
- Soils that have slopes of less than 18 percent or more than 25 percent

Dissimilar soils:
- The poorly drained Sawmill soils on flood plains
- The well drained Landes soils on flood plains
- The gently sloping, moderately well drained Xenia soils on summits and backslopes
- Soils that are severely eroded

Properties and Qualities of the Senachwine Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High

Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

618F—Senachwine silt loam, 18 to 35 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have less silt and more sand in the upper part of the profile
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have carbonates at a depth of less than 20 inches
- Soils that have slopes of less than 18 percent or more than 35 percent
- Soils that are moderately eroded

Dissimilar soils:
- The poorly drained Sawmill soils on flood plains
- The well drained Landes soils on flood plains
- The gently sloping, moderately well drained Xenia soils on summits and backslopes
- Soils that are severely eroded

Properties and Qualities of the Senachwine Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Shaffton Series

Drainage class: Somewhat poorly drained
Landform: Flood plains
Parent material: Loamy alluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon

Shaffton loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 655 feet; 70 feet south and 2,360 feet west of the northeast corner of sec. 29, T. 22 N., R. 11 W.; Vermilion County, Illinois; USGS Bismarck topographic quadrangle; lat. 40 degrees 20 minutes 36 seconds N. and long. 87 degrees 36 minutes 56 seconds W., NAD 27; UTM Zone 16, 0447721 Easting and 4466057 Northing, NAD 83:

Ap—0 to 9 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.
A—9 to 13 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; friable; neutral; clear smooth boundary.
Bw—13 to 19 inches; brown (10YR 5/3) loam; moderate fine subangular blocky structure; friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; neutral; clear smooth boundary.
Bg1—19 to 32 inches; 60 percent grayish brown (10YR 5/2) and 40 percent brown (10YR 5/3) loam; moderate fine subangular blocky structure; friable; few coarse rounded soft masses of oxidized iron and manganese throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.
Bg2—32 to 44 inches; grayish brown (10YR 5/2) loam; weak medium subangular blocky structure; friable; few coarse rounded iron-manganese oxide accumulations throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron and common medium faint brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; neutral; clear smooth boundary.
Cg—44 to 60 inches; grayish brown (10YR 5/2), stratified loam, sandy loam, and loamy sand; massive; friable; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 6 percent fine and medium gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 15 inches
Depth to carbonates: More than 60 inches
Depth to the base of soil development: 30 to 50 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—loam

Bw or Bg horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—loam or clay loam

Cg or C horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 or 3
Texture—stratified loamy sand to loam
Content of rock fragments—0 to 7 percent

3183A—Shaffton loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Shaffton and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface soil
- Soils that have less sand and more silt or clay in the upper one-half of the profile
- Soils that have more gravel in the lower part of the profile
- Soils that are subject to occasional flooding
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Sawmill soils on flood plains
- The well drained Landes and Rossburg soils on flood plains

Properties and Qualities of the Shaffton Soil

Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Low
Apparent seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding (frequency, months): Frequent, November through June
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Sparta Series

Drainage class: Excessively drained
Landform: Outwash plains
Parent material: Eolian deposits and/or outwash
Slope range: 1 to 6 percent
Taxonomic classification: Sandy, mixed, mesic Entic Hapludolls

Typical Pedon

Sparta loamy fine sand, 1 to 6 percent slopes; at an elevation of 690 feet; 600 feet south and 320 feet west of the northeast corner of sec. 17, T. 22 N., R. 11 W.; Vermilion County, Illinois; USGS Bismarck topographic quadrangle; lat. 40 degrees 22 minutes 16 seconds N. and long. 87 degrees 36 minutes 33 seconds W., NAD 27; UTM Zone 16, 0448282 Easting and 4469130 Northing, NAD 83:

Ap—0 to 13 inches; very dark grayish brown (10YR 3/2) loamy fine sand, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to weak fine granular; very friable; common very fine roots; slightly acid; abrupt smooth boundary.

Bw1—13 to 24 inches; dark yellowish brown (10YR 4/6) loamy fine sand; weak medium subangular blocky structure; very friable; slightly acid; gradual wavy boundary.

Bw2—24 to 42 inches; dark yellowish brown (10YR 4/6) loamy fine sand; weak medium and coarse subangular blocky structure; very friable; slightly acid; gradual wavy boundary.

Bw3—42 to 71 inches; yellowish brown (10YR 5/6) loamy fine sand; weak coarse subangular blocky structure; very friable; neutral; clear wavy boundary.

E and Bt—71 to 80 inches; yellowish brown (10YR 5/6) fine sand (E); single grain; loose; $^{1}/_{8}$- to $^{1}/_{4}$-inch lamellae of dark yellowish brown (10YR 4/4) loamy fine sand (Bt) with a total thickness of less than 4 inches; weak medium subangular blocky structure; very friable; few faint brown (10YR 4/3) clay bridges between sand grains; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to lamellae: 45 to 80 inches
Depth to carbonates: More than 80 inches

Ap or A horizon:
Hue—7.5YR or 10YR
Value—2 to 3
Chroma—1 or 2
Texture—loamy fine sand

Bw horizon:
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—3 to 6
Texture—loamy fine sand, loamy sand, or fine sand

E and Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6 in the E part; 3 to 5 in the Bt part
Chroma—3 or 4 in the E part; 3 to 6 in the Bt part
Texture—sand or fine sand in the E part; loamy fine sand, loamy sand, or fine sand in the Bt part

88B—Sparta loamy fine sand, 1 to 6 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and backslopes

Map Unit Composition

Sparta and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface soil
- Soils that have less sand and more clay or silt in the subsoil
- Soils that have slopes of more than 6 percent
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

Dissimilar soils:
- The somewhat poorly drained Andres and La Hogue soils on summits and footslopes

Properties and Qualities of the Sparta Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 4s
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Starks Series

Drainage class: Somewhat poorly drained
Landform: Outwash plains and stream terraces
Parent material: Loess or other silty material and the underlying outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs

Typical Pedon

Starks silt loam, 0 to 2 percent slopes; at an elevation of 610 feet; 30 feet south and 600 feet east of the northwest corner of sec. 33, T. 30 N., R. 4 E.; Livingston County,

Illinois; USGS Streator South topographic quadrangle; lat. 41 degrees 01 minute 58 seconds N. and long. 88 degrees 46 minutes 27 seconds W., NAD 27; UTM Zone 16, 0350840 Easting and 4543911 Northing, NAD 83:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.

E—10 to 14 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate fine subangular blocky structure; friable; few very fine roots; many distinct white (10YR 8/1) (dry) silt coatings on faces of peds; common fine faint brown (10YR 5/3) masses of oxidized iron and manganese in the matrix; neutral; abrupt smooth boundary.

BE—14 to 17 inches; 80 percent brown (10YR 4/3) and 20 percent grayish brown (10YR 5/2) silty clay loam; moderate fine subangular blocky structure; friable; few very fine roots; many distinct white (10YR 8/1) (dry) silt coatings on faces of peds; common fine faint yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; neutral; abrupt smooth boundary.

Bt—17 to 21 inches; brown (10YR 4/3) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) weakly cemented iron-manganese concretions throughout; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Btg1—21 to 25 inches; gray (10YR 5/1) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) weakly cemented iron-manganese concretions throughout; common fine prominent brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; slightly acid; clear smooth boundary.

Btg2—25 to 31 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine black (7.5YR 2.5/1) weakly cemented iron-manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

2Btg3—31 to 43 inches; grayish brown (2.5Y 5/2), stratified silt loam and sandy loam; weak medium prismatic structure parting to weak fine angular blocky; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine black (7.5YR 2.5/1) weakly cemented iron-manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron the matrix; neutral; clear smooth boundary.

2Cg—43 to 60 inches; grayish brown (2.5Y 5/2) sandy loam with thin strata of loamy sand; massive; very friable; many coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral.

Range in Characteristics

Thickness of the loess or other silty material: 24 to 40 inches
Depth to carbonates: 40 to 70 inches
Depth to the base of soil development: 35 to more than 60 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5

Chroma—1 to 3
Texture—silt loam

E horizon:
Hue—10YR
Value—5 or 6
Chroma—2 or 3
Texture—silt loam

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay loam

2Btg or 2BCg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—clay loam, silt loam, or sandy loam; stratified in some pedons
Content of rock fragments—less than 5 percent

2Cg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified loamy sand to clay loam
Content of rock fragments—less than 15 percent

132A—Starks silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Footslopes and summits

Map Unit Composition

Starks and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have outwash beginning at a depth of less than 24 inches or more than 40 inches
- Soils that have till in the lower part of the profile
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Drummer soils on toeslopes
- The well drained Camden and Martinsville soils on summits and backslopes

Properties and Qualities of the Starks Soil

Parent material: Loess or other silty material and the underlying outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table (depth, months): 0.5 foot to 2.0 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

Strawn Series

Drainage class: Well drained
Landform: End moraines
Parent material: Till
Slope range: 35 to 75 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Strawn silt loam, 35 to 75 percent slopes; at an elevation of 640 feet; 2,430 feet south and 1,280 feet east of the northwest corner of sec. 24, T. 18 N., R. 11 W.; Vermilion County, Illinois; USGS Danville SE topographic quadrangle; lat. 40 degrees 00 minutes 28 seconds N. and long. 87 degrees 33 minutes 26 seconds W., NAD 27; UTM Zone 16, 0452454 Easting and 4428780 Northing, NAD 83:

A—0 to 2 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; 2 percent fine gravel; slightly acid; abrupt smooth boundary.

E—2 to 4 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium platy structure; friable; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; 2 percent fine gravel; strongly acid; clear smooth boundary.

EB—4 to 7 inches; brown (10YR 4/3) silt loam; moderate very fine subangular blocky structure; friable; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; 2 percent fine gravel; moderately acid; clear smooth boundary.

Bt—7 to 15 inches; brown (10YR 4/3) silt loam (25 percent sand); moderate very fine subangular blocky structure; friable; few faint dark brown (10YR 3/3) clay films and very dark grayish brown (10YR 3/2) organic coatings on faces of peds; 3 percent fine gravel; slightly acid; clear smooth boundary.

BC—15 to 18 inches; brown (10YR 5/3) loam; weak medium subangular blocky structure; friable; 5 percent fine gravel; neutral; slightly effervescent; clear smooth boundary.

C—18 to 60 inches; olive (5Y 5/3) loam; massive; firm; 5 percent fine gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Depth to carbonates: 14 to 24 inches
Depth to the base of soil development: 16 to 24 inches

A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam

E or EB horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam or loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam, loam, silty clay loam, or clay loam

C horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—2 to 6
Texture—loam or clay loam

224G—Strawn silt loam, 35 to 75 percent slopes

Setting

Landform: End moraines
Position on the landform: Backslopes

Map Unit Composition

Strawn and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of more than 75 percent
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have carbonates beginning at a depth of less than 14 inches or more than 24 inches
- Soils that have less clay and more sand or silt in the upper one-half of the profile

Dissimilar soils:
- Soils that are severely eroded
- The well drained Landes soils on flood plains
- The gently sloping, moderately well drained Xenia soils on summits and backslopes

Properties and Qualities of the Strawn Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Swygert Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying lacustrine deposits and till
Slope range: 0 to 6 percent
Taxonomic classification: Fine, mixed, active, mesic Aquic Argiudolls
Taxadjunct features: The Swygert soils in map units 91B2 and 91C2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as fine, mixed, active, mesic Aquollic Hapludalfs.

Typical Pedon

Swygert silty clay loam, 0 to 2 percent slopes; at an elevation of 675 feet; 339 feet south and 66 feet east of the northwest corner of sec. 7, T. 25 N., R. 13 W.; Iroquois County, Illinois; USGS Onarga East topographic quadrangle; lat. 40 degrees 38 minutes 36 seconds N. and long. 87 degrees 53 minutes 04 seconds W., NAD 27; UTM Zone 16, 0425215 Easting and 4499540 Northing, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine granular structure; friable; many fine roots; slightly acid; abrupt wavy boundary.
A—7 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak medium angular blocky structure parting to weak fine subangular blocky; friable; many fine roots; common black (N 2.5/) krotovinas; slightly acid; abrupt smooth boundary.
Bt1—12 to 18 inches; very dark grayish brown (10YR 3/2) silty clay, gray (10YR 5/1) dry; moderate fine subangular blocky structure; friable; many fine roots; many distinct black (10YR 2/1) and very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (10YR 2/1) iron-manganese concretions throughout; common fine faint brown (10YR 4/3) masses of oxidized iron and manganese in the matrix; slightly acid; clear wavy boundary.
Bt2—18 to 26 inches; brown (10YR 4/3) silty clay; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films and dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent strong

brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine distinct olive gray (5Y 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt3—26 to 31 inches; yellowish brown (10YR 5/4) silty clay; moderate medium prismatic structure parting to weak medium and fine angular blocky; firm; common fine roots; common distinct very dark gray (10YR 3/1) organo-clay films in root channels; common distinct dark gray (10YR 4/1) and gray (10YR 5/1) clay films on faces of peds; common very dark gray (10YR 3/1) krotovinas; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine prominent gray (5Y 5/1) iron depletions in the matrix; slightly effervescent (7 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.

2Bt4—31 to 41 inches; light olive brown (2.5Y 5/4) silty clay; moderate medium prismatic structure parting to weak coarse angular blocky; very firm; few fine roots; common prominent very dark gray (10YR 3/1) organo-clay films and gray (5Y 5/1) clay films on faces of peds; common medium prominent gray (5Y 5/1) iron depletions in the matrix; slightly effervescent (16 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.

2Bt5—41 to 51 inches; light olive brown (2.5Y 5/4) silty clay; weak coarse prismatic structure; very firm; few fine roots; common distinct very dark gray (5Y 3/1) organo-clay films in root channels; many distinct dark gray (5Y 4/1) clay films on faces of peds; common fine black (10YR 2/1) iron-manganese concretions throughout; few fine distinct olive (5Y 5/6) and few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine prominent gray (5Y 5/1) iron depletions in the matrix; strongly effervescent (18 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.

2Cd—51 to 60 inches; brown (10YR 5/3) silty clay; massive; very firm; many distinct gray (5Y 6/1) pressure faces; common fine black (10YR 2/1) iron-manganese oxide concretions throughout; few coarse prominent strong brown (7.5YR 5/6 and 5/8) masses of oxidized iron in the matrix; strongly effervescent (19 percent calcium carbonate equivalent); moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon or dark surface layer: 7 to 20 inches
Depth to till: Less than 45 inches
Depth to carbonates: 20 to 50 inches
Depth to the base of soil development: 35 to 55 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silty clay loam

Bt or 2Bt horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—2 to 6
Texture—silty clay or clay
Content of rock fragments—less than 8 percent

2Cd horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay, silty clay loam, or clay
Content of rock fragments—less than 12 percent

91A—Swygert silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and footslopes

Map Unit Composition

Swygert and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates beginning at a depth of less than 20 inches or more than 50 inches
- Soils that have slopes of more than 2 percent
- Soils that have less clay and more silt or sand in the surface soil and subsoil
- Soils that have a thinner surface soil

Dissimilar soils:
- The poorly drained Bryce soils on toeslopes

Properties and Qualities of the Swygert Soil

Parent material: Thin mantle of loess or other silty material and the underlying lacustrine deposits and till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 35 to 55 inches to dense material
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: High
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

91B2—Swygert silty clay loam, 2 to 4 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes and footslopes

Map Unit Composition

Swygert and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates beginning at a depth of less than 20 inches or more than 50 inches
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have less clay and more silt or sand in the surface soil and subsoil
- Soils that are slightly eroded
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

Dissimilar soils:
- The poorly drained Bryce soils on toeslopes
- Soils that are severely eroded

Properties and Qualities of the Swygert Soil

Parent material: Thin mantle of loess or other silty material and the underlying lacustrine deposits and till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 35 to 55 inches to dense material
Available water capacity: About 7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

91C2—Swygert silty clay loam, 4 to 6 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Swygert and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay and more silt or sand in the surface soil and subsoil
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have carbonates beginning at a depth of less than 20 inches or more than 50 inches
- Soils that have slopes of less than 4 percent or more than 6 percent

Dissimilar soils:
- The poorly drained Bryce soils on toeslopes
- Soils that are severely eroded

Properties and Qualities of the Swygert Soil

Parent material: Thin mantle of loess or other silty material and the underlying lacustrine deposits and till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 35 to 55 inches to dense material
Available water capacity: About 6.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: High
Perched seasonal high water table (depth, months): 1 to 2 feet below the surface, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Symerton Series

Drainage class: Moderately well drained
Landform: Ground moraines and lake plains
Parent material: Thin mantle of loess or other silty material and the underlying outwash and till
Slope range: 2 to 5 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Oxyaquic Argiudolls

Typical Pedon

Symerton silt loam, 2 to 5 percent slopes; at an elevation of 714 feet; 102 feet north and 1,806 feet west of the southeast corner of sec. 33, T. 24 N., R. 12 W.; Iroquois County, Illinois; USGS Hoopeston topographic quadrangle; lat. 40 degrees 29 minutes 17 seconds N. and long. 87 degrees 42 minutes 58 seconds W., NAD 27; UTM Zone 16, 0439310 Easting and 4482181 Northing, NAD 83:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, very dark gray (10YR 3/1) dry; weak very fine granular structure; friable; slightly acid; abrupt smooth boundary.
A—10 to 15 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate very fine granular structure; friable; moderately acid; clear smooth boundary.
AB—15 to 19 inches; very dark grayish brown (10YR 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate very fine granular structure; friable; many distinct black (10YR 2/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.
2Bt1—19 to 25 inches; brown (10YR 4/3) gravelly clay loam; moderate very fine subangular blocky structure; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese nodules throughout; 18 percent gravel; moderately acid; clear smooth boundary.
2Bt2—25 to 31 inches; brown (10YR 4/3) gravelly clay loam; moderate fine subangular blocky structure; firm; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese nodules throughout; 18 percent gravel; neutral; clear smooth boundary.
2Bt3—31 to 35 inches; yellowish brown (10YR 5/4) gravelly loam; weak fine and medium subangular blocky structure; firm; common distinct brown (10YR 4/3) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese nodules throughout; few fine prominent yellowish red (5YR 5/8) masses of oxidized iron in the matrix; 18 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
3Bt4—35 to 39 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; few distinct brown (10YR 4/3) clay films on faces of peds; few fine prominent yellowish red (5YR 5/8) masses of oxidized iron in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.
3C—39 to 60 inches; light olive brown (2.5Y 5/4) and light yellowish brown (2.5Y 6/4) silt loam; massive; firm; few fine prominent yellowish red (5YR 4/6) masses of oxidized iron in the matrix; few fine prominent gray (10YR 5/1) iron depletions in the matrix; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: Less than 24 inches
Depth to till: 30 to 50 inches
Depth to carbonates: 24 to 55 inches
Depth to the base of soil development: 30 to 50 inches

Ap, A, or AB horizon:
Hue—10YR
Value—2 to 4
Chroma—1 to 4
Texture—silt loam or silty clay loam

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—clay loam, loam, gravelly clay loam, or gravelly loam
Content of rock fragments—less than 20 percent

3Bt or 3BC horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam or silt loam
Content of rock fragments—less than 7 percent

3C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—3 or 4
Texture—silty clay loam or silt loam
Content of rock fragments—less than 7 percent

294B—Symerton silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Summits and backslopes

Map Unit Composition

Symerton and similar soils: 88 percent
Dissimilar soils: 12 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner or lighter colored surface layer
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table at a depth of 1 to 2 feet
- Soils that have less sand and more silt in the upper two-thirds of the subsoil
- Soils that have stratified loamy outwash in the lower part of the profile
- In the area east of Hoopeston, soils that have less silt and more sand in the lower part of the profile

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Symerton Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

533—Urban land

This map unit occurs as areas covered by pavement and buildings. Because of extensive land smoothing, the areas generally are nearly level or gently sloping. Most of the paved areas are parking lots adjacent to shopping centers, industrial plants, and other commercial buildings.

Map Unit Composition

Urban land and similar components: 92 percent
Dissimilar components: 8 percent

Components of Minor Extent

Similar components:
- Areas covered by gravel

Dissimilar components:
- The poorly drained Drummer soils on toeslopes
- The somewhat poorly drained Flanagan soils on summits
- The well drained, loamy Orthents on summits and backslopes

Interpretive Groups

Land capability classification: 8
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Varna Series

Drainage class: Moderately well drained
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 2 to 12 percent
Taxonomic classification: Fine, illitic, mesic Oxyaquic Argiudolls
Taxadjunct features: The Varna soils in this survey area have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as fine, illitic, mesic Mollic Oxyaquic Hapludalfs.

Typical Pedon

Varna silt loam, 2 to 4 percent slopes, eroded; at an elevation of 787 feet; 300 feet north and 1,320 feet west of the southeast corner of sec. 5, T. 25 N., R. 8 E.; Livingston County, Illinois; USGS Chatsworth South topographic quadrangle; lat. 40 degrees 38 minutes 51 seconds N. and long. 88 degrees 18 minutes 55 seconds W., NAD 27; UTM Zone 16, 0388781 Easting and 4500459 Northing, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; few very fine roots; moderately acid; abrupt smooth boundary.

Bt1—7 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; common faint brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

2Bt2—13 to 20 inches; brown (10YR 4/3) silty clay loam; moderate fine prismatic structure parting to moderate fine subangular blocky; friable; few very fine roots; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; 1 percent gravel; neutral; clear smooth boundary.

2Bt3—20 to 26 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate fine prismatic structure parting to moderate fine subangular blocky; firm; few very fine roots; many faint dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine distinct brown (7.5YR 4/4) masses of oxidized iron and manganese in the matrix; common fine prominent gray (10YR 5/1) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.

2Bt4—26 to 32 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; few very fine roots; common faint dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine iron-manganese concretions throughout; many medium distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; few fine faint gray (10YR 5/1) iron depletions in the matrix; 2 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2BCt—32 to 38 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure; firm; few very fine roots; few faint dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine iron-manganese concretions throughout; common fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; 4 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.

2Cd—38 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; very firm; few very fine roots; few faint dark grayish brown (2.5Y 4/2) pressure faces; few fine iron-manganese concretions throughout; many medium distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; few fine faint gray (10YR 5/1) iron depletions in the matrix; 4 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the dark surface layer: 7 to 9 inches
Thickness of the loess or other silty material: Less than 18 inches
Depth to carbonates: 24 to 42 inches
Depth to the base of soil development: 24 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt or 2Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam, silty clay, or clay
Content of rock fragments—less than 10 percent

2BCt, 2BC, or 2C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or clay loam
Content of rock fragments—less than 10 percent

223B2—Varna silt loam, 2 to 4 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and backslopes

Map Unit Composition

Varna and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have a lighter colored surface soil
- Soils that are slightly eroded
- Soils that have a seasonal high water table at a depth of 1 to 2 feet
- Soils that have less clay and more sand or silt in the subsoil
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 60 inches to dense material
Available water capacity: About 7.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

223C2—Varna silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Varna and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a lighter colored surface soil
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have less clay and more sand or silt in the subsoil

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes
- The nearly level, somewhat poorly drained Elliott soils on summits and footslopes
- Soils that are severely eroded

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 60 inches to dense material
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

223D2—Varna silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Varna and similar soils: 92 percent
Dissimilar soils: 8 percent

Components of Minor Extent

Similar soils:
- Soils that have a lighter colored surface soil
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that have less clay and more sand or silt in the subsoil

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes
- Soils that are severely eroded
- The nearly level, somewhat poorly drained Elliott soils on summits and footslopes

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 60 inches to dense material
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 2.0 to 3.5 feet below the surface, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

W—Water

This map unit consists of natural bodies of water, such as ponds, lakes, and rivers.

Whitaker Series

Drainage class: Somewhat poorly drained
Landform: Outwash plains and stream terraces
Parent material: Loamy outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Aeric Endoaqualfs

Typical Pedon

Whitaker loam, 0 to 2 percent slopes; at an elevation 655 feet; 1,960 feet south and 850 feet west of the northeast corner of sec. 36, T. 19 N., R. 11 W.; Vermilion County, Illinois; lat. 40 degrees 04 minutes 07 seconds N. and long. 87 degrees 32 minutes 50 seconds W., NAD 27; UTM Zone 16, 0453326 Easting and 4435530 Northing, NAD 83:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2); weak very fine granular structure; friable; neutral; abrupt smooth boundary.

BE—10 to 14 inches; dark grayish brown (10YR 4/2) loam; moderate fine subangular blocky structure; friable; many distinct grayish brown (10YR 5/2) (dry) silt coatings on faces of peds; common fine rounded iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) and distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

Btg—14 to 22 inches; grayish brown (10YR 5/2) clay loam; moderate fine subangular blocky structure; friable; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine rounded iron-manganese concretions throughout; many fine distinct yellowish brown (10YR 5/4) and common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.

Bt1—22 to 34 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; friable; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium irregular masses of oxidized iron and manganese throughout; many fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; many fine distinct dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; moderately acid; gradual smooth boundary.

Bt2—34 to 47 inches; yellowish brown (10YR 5/4), stratified clay loam, loam, and sandy loam; moderate medium subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium irregular masses of oxidized iron and manganese throughout; many fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly acid; gradual smooth boundary.

BCt—47 to 54 inches; yellowish brown (10YR 5/4), stratified sandy loam, loamy sand, and loam; weak coarse subangular blocky structure; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium irregular masses of oxidized iron and manganese throughout; many medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; diffuse smooth boundary.

C—54 to 60 inches; dark yellowish brown (10YR 4/4), stratified sandy loam, loamy sand, and loam; massive; friable; common medium irregular masses of oxidized iron and manganese throughout; many medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; many fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; neutral.

Range in Characteristics

Depth to the base of soil development: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—loam

E or BE horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—loam

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—clay loam, silty clay loam, loam, or sandy clay loam
Content of rock fragments—less than 3 percent

BCt or BC horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—loam or sandy loam
Content of rock fragments—less than 5 percent

C horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified loamy sand to silt loam
Content of rock fragments—less than 15 percent

571A—Whitaker loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Summits and footslopes

Map Unit Composition

Whitaker and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have till in the lower part of the profile
- Soils that have less sand and more silt in the upper one-half of the profile

Dissimilar soils:
- The poorly drained Selma soils on toeslopes
- The well drained Martinsville soils on summits and backslopes

Properties and Qualities of the Whitaker Soil

Parent material: Loamy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate

Apparent seasonal high water table (depth, months): 0.5 foot to 2.0 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

Xenia Series

Drainage class: Moderately well drained
Landform: Ground moraines and end moraines
Parent material: Loess over till
Slope range: 2 to 5 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Typical Pedon

Xenia silt loam, 2 to 5 percent slopes; at an elevation of 705 feet; 390 feet north and 860 feet west of the southeast corner of sec. 34, T. 20 N., R. 9 E.; Champaign County, Illinois; USGS Thomasboro topographic quadrangle; lat. 40 degrees 08 minutes 35 seconds N. and long. 88 degrees 09 minutes 57 seconds W., NAD 27; UTM Zone 16, 0400688 Easting and 4444290 Northing, NAD 83:

A—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate very fine and fine granular structure; friable; neutral; abrupt smooth boundary.

E—4 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium platy structure; friable; many faint light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—10 to 16 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bt2—16 to 23 inches; brown (10YR 4/3) silty clay loam; moderate fine and medium subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Bt3—23 to 37 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium and coarse subangular blocky structure; firm; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; many distinct grayish brown (10YR 5/2) (dry) silt coatings on faces of peds; few medium distinct grayish brown (10YR 5/2) and few medium faint brown (10YR 5/3) iron depletions in the matrix; moderately acid; clear smooth boundary.

2Bt4—37 to 48 inches; brown (10YR 5/3) and light olive brown (2.5Y 5/4) clay loam; weak coarse subangular blocky structure; firm; few distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; gradual smooth boundary.

2Bt5—48 to 57 inches; brown (10YR 5/3) and light olive brown (2.5Y 5/4) loam; weak coarse prismatic structure; firm; few distinct dark brown (10YR 3/3) organo-clay films on faces of peds; slightly acid; clear smooth boundary.
2C—57 to 72 inches; light olive brown (2.5Y 5/4) loam; massive; firm; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 22 to 40 inches
Depth to carbonates: 40 to 60 inches
Depth to the base of soil development: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—silt loam

E horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

Bt horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—loam or clay loam

2C horizon:
Hue—10YR
Value—5
Chroma—3 or 4
Texture—loam

291B—Xenia silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and end moraines (fig. 9)
Position on the landform: Summits and backslopes

Map Unit Composition

Xenia and similar soils: 94 percent
Dissimilar soils: 6 percent

Components of Minor Extent

Similar soils:
- Soils that have till beginning at a depth of less than 22 inches or more than 40 inches

Figure 9.—A typical landscape in an area of the gently sloping Xenia soils. The sloping and strongly sloping Senachwine soils are in the background.

- Soils that have a seasonal high water table beginning at a depth of more than 2.5 feet
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have slopes of less than 2 percent
- Soils that have a thicker and darker surface layer

Dissimilar soils:

- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Xenia Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table (depth, months): 1.5 to 2.5 feet below the surface, January through May
Ponding: None
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low

Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses or describe specific management concerns. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the potential of the soils for the use. Terms for limitation classes are *not limited, somewhat limited,* and *very limited*. Terms indicating the potential of the soils for a given use are *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact

on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Soil Series and Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 2002, Vermilion County had about 428,904 acres of cropland (U.S. Department of Commerce, 2002). The major row crops are corn and soybeans. Wheat is the major small grain crop, and alfalfa is the major forage crop.

The soils in Vermilion County have good potential for continued crop production, especially if the latest crop production technology is applied. This soil survey can be used as a guide in applying this technology.

Limitations Affecting Cropland and Pastureland

The management concerns affecting the use of the detailed soil map units in the survey area for crops and pasture are shown in table 6.

Cropland

The main concerns affecting the management of cropland in Vermilion County include crusting, high pH, ponding, poor tilth, restricted permeability, root-restrictive layers, water erosion, and wetness. Other concerns include excess lime, excessive permeability, flooding, limited available water capacity, and wind erosion.

Crusting occurs when flowing water or raindrops break down soil structural units, moving clay downward and leaving a concentration of sand and silt particles on the soil surface. Crusts can inhibit seedling emergence and proper growth, reduce oxygen diffusion to seedlings, reduce the rate of water infiltration, and increase runoff and erosion. Surface crusting can be a problem in areas of Fincastle and Xenia soils, which have a surface layer of silt loam or loam and a low content of organic matter. When the surface of these soils is left bare, a crust is likely to form on the surface after an intense rainfall. Practices that help to minimize surface crusting and improve tilth are those that protect the surface from the impact of raindrops and from flowing water. Incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage help to prevent crusting and improve tilth.

High pH within a depth of 40 inches can occur in Blount and Swygert soils. This limitation affects the availability of many plant nutrients and influences the effectiveness of herbicides. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Crops may respond well to additions of phosphate fertilizer on these soils. The applications of herbicides should be adjusted as the level of alkalinity increases. Incorporating green manure crops, manure, or crop residue into the soil, applying a system of conservation tillage, and using conservation cropping systems also help to overcome this limitation.

Ponding occurs when the seasonal high water table is above the surface of the soil. It is a hazard in some areas of poorly drained and very poorly drained soils, such as Bryce and Peotone soils. Land grading helps to control ponding. Surface ditches and

surface inlet tile also help to remove excess water if suitable outlets are available. Management of drainage in conformance with regulations affecting wetlands may require special permits and extra planning.

Poor tilth is a potential problem in areas of Ashkum and Bryce soils. It can be caused by erosion or excessive tillage. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because such soils can be tilled only within a narrow range in moisture content, seedbed preparation is difficult. If the timing is not right, the resultant clods can hinder good seed-to-soil contact. Poor tilth inhibits seedling germination and emergence, increases runoff and erosion, and reduces the rate of water infiltration. Soils with good tilth are granular and porous and have a high content of organic matter in the surface layer. Soils with poor tilth generally have more clay, a lower content of organic matter, and weaker soil structure in the surface layer. Returning crop residue to the soil and regularly adding other organic material, minimizing tillage, and using a system of conservation tillage can improve tilth. Surface cloddiness can be controlled by avoiding tillage when the soil is too wet or by using no-till farming methods. Tilling in the fall and leaving the soil surface rough with moderate amounts of crop residue generally result in good tilth in the spring.

Restricted permeability in the soil can increase the susceptibility to erosion. As water movement slows within a soil, the chance for runoff increases. The slowly permeable Varna soils are more susceptible to erosion than the moderately permeable Proctor soils. The hazard of erosion resulting from restricted permeability can be reduced by applying a cropping system that leaves crop residue on the surface after planting, incorporating green manure crops or crop residue into the soil, and using conservation cropping systems. Restricted permeability can also limit the effectiveness of drainage systems. For example, the tile spacing in areas of the slowly permeable Elliott soils should be narrower than that in areas of the moderately permeable La Hogue soils for the drainage system to be effective in lowering the seasonal high water table.

A root-restrictive layer limits the available water capacity in the soil. Some soils, such as Blount, Elliott, and Swygert soils, are moderately deep to layers that restrict the penetration of plant roots. Increasing the rate of water infiltration, reducing the runoff rate, or planting drought-tolerant species can minimize the effects of this limitation. Planting cover crops and using a system of conservation tillage that leaves crop residue on the surface after planting increase the rate of water infiltration and reduce the runoff rate. Planting drought-tolerant species, such as soybeans and winter wheat, is beneficial because these crops make the most efficient use of the limited amount of water.

Water erosion is a potential problem on soils that have slopes of more than 2 percent, such as Blount, Dana, and Elliott soils. It is also a hazard in areas where the slopes are long and less than 2 percent and runoff water is concentrated. Loss of the surface layer through sheet and rill erosion is damaging for several reasons. Soil productivity is reduced as the surface soil is removed and part of the subsoil is incorporated into the plow layer. The subsoil is generally lower in plant nutrients, lower in organic matter, and higher in clay content than the surface soil. As the content of organic matter decreases in the plow layer and the clay content increases, soil tilth deteriorates. As a result, surface crusting can occur and the rate of water infiltration is reduced. Under these conditions, preparing a good seedbed could be difficult. Erosion results in the sedimentation of streams, rivers, road ditches, and lakes. This sedimentation reduces the quality of water for agricultural, municipal, and recreational uses and for fish and wildlife. Removing the sediment generally is expensive. Erosion control helps to minimize this pollution and improves water quality. Erosion-control measures include both cultural and structural practices. The most widely used practice in the county is a system of conservation tillage, such as chisel plowing, no-till farming,

or ridge planting. These systems can leave 20 to 90 percent of the surface covered with crop residue (fig. 10). No-till farming is most effective in areas of well drained and moderately well drained soils, such as Jasper and Symerton soils. Another cultural practice is a crop rotation that includes 1 or more years of close-growing grasses or legumes. If slopes are smooth and uniform, terraces and contour farming also are effective in controlling erosion. Structural practices are needed in drainageways where concentrated runoff flows overland. Establishing grassed waterways or erosion-control structures can reduce the hazard of erosion in these areas. Generally, a combination of several practices is needed to control water erosion. Conservation tillage, stripcropping, contour farming, conservation cropping systems, crop residue management, diversions, and grassed waterways help to prevent excessive soil loss.

Wetness occurs when the seasonal high water table is at or near the surface. Subsurface tile drains can lower the seasonal high water table if suitable outlets are available. Drainage systems have been installed in most areas of poorly drained and somewhat poorly drained soils used as cropland in the county; therefore, these soils are adequately drained for the commonly grown crops. Poorly drained soils, such as Drummer and Selma soils, have subsurface drainage. In some areas, somewhat poorly drained soils are wet long enough that in some years productivity is reduced, unless they are artificially drained. Somewhat poorly drained soils, such as Andres and Flanagan soils, have subsurface drainage. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning.

Excess lime occurs in soils that have a high content of calcium carbonate at or near the surface or in the upper part of the subsoil. This limitation, which occurs in areas of Harpster soils, affects the availability of many plant nutrients and influences the

Figure 10.—Leaving crop residue on the surface after planting helps to control erosion in nearly level and gently sloping areas of Blount soils.

effectiveness of herbicides. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Crops may respond well to additions of phosphate fertilizer on these soils. The applications of herbicides should be adjusted as the level of alkalinity increases. Incorporating green manure crops, manure, or crop residue into the soil, applying a system of conservation tillage, and using conservation cropping systems also help to overcome this limitation.

Excessive permeability can occur in soils that have a high content of sand in the profile and thus have many pores of large diameter. Kishwaukee and Ockley soils are examples. The capacity of these soils to retain moisture for use by plants is restricted. Deep leaching of nutrients and pesticides can occur, and the risk of ground-water pollution is a concern. Irrigation can be used to supply the moisture needed for crops. Selecting appropriate chemicals and using split application methods reduce the hazard of ground-water contamination.

Flooding occurs in unprotected areas along the major rivers and their tributaries. It can be a hazard in areas of Sawmill and Shaffton soils, for example. Flooding cannot be easily overcome. Levees or diversions reduce the extent of crop damage caused by floodwater. Because flooding can damage winter small grain crops, tilling and planting should be delayed in the spring until flooding is no longer a hazard. Selecting crop varieties adapted to a shorter growing season and wetter conditions can help to minimize the extent of damage caused by flooding.

Conserving moisture is important in areas where the soils have a limited available water capacity, such as areas of the clayey Clarence soils and the sandy Sparta soils. Overcoming this limitation primarily involves reducing the evaporation and runoff rates and increasing the rate of water infiltration. Applying conservation tillage and conservation cropping systems, farming on the contour, stripcropping, establishing field windbreaks, and leaving crop residue on the surface conserve moisture.

Wind erosion is a hazard on soils that have a coarser textured surface layer, such as Sparta soils. Using a system of conservation tillage that leaves crop residue on the surface after planting and keeping the surface rough can reduce the hazard of wind erosion.

The criteria used to determine some of the limitations or hazards in table 6 are described in the following paragraphs.

Crusting.—The average content of organic matter in the surface layer is less than 2.5 percent, and the content of clay in the surface layer is between 20 and 27 percent.

Excess lime.—The upper limit of the calcium carbonate equivalent is 15 percent or more in all layers within a depth of 20 inches.

Excessive permeability.—The upper limit of the permeability range within the soil profile is 6 inches or more per hour.

Flooding.—The soil is occasionally flooded or frequently flooded.

High pH.—The pH is 7.4 or more within a depth of 40 inches.

Limited available water capacity.—The available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

Ponding.—The water table is above the surface.

Poor tilth.—The content of clay in the surface layer of somewhat poorly drained, poorly drained, or severely eroded soils is 27 percent or more.

Restricted permeability.—Permeability is less than 0.2 inch per hour between the surface and a depth of 40 inches.

Root-restrictive layer.—Dense material is within a depth of 40 inches.

Water erosion.—The Kw factor of the surface layer multiplied by the upper limit of the slope is 0.8 or more, and the slope is 3 percent or more.

Wetness.—The seasonal high water table is within a depth of 1.5 feet.

Wind erosion.—The wind erodibility group (WEG) is 1 or 2.

Pastureland

Proper management is needed on hayland to prolong the life of desirable forage species, maintain or improve the quality and quantity of forage, and control erosion and reduce runoff. Hay may last as a vigorous crop for 4 or 5 years, depending on management and on the varieties seeded. Suitable hay plants include several legumes and cool-season grasses. Alfalfa is the legume most commonly grown for hay. It is often used in mixtures with smooth bromegrass and orchardgrass. Alfalfa is best suited to moderately well drained and well drained soils, such as Dana and Martinsville soils. Red clover also is grown for hay. Measures that maintain or improve fertility are needed. The amount of lime and fertilizer to be added should be based on the results of soil tests, the needs of the plants, and the expected level of yields. Seed varieties should be selected in accordance with the soil properties and the drainage conditions of the specific tract of land.

Overgrazing reduces the vigor of pasture plants and reduces forage production. It also results in an increase in the extent of weeds and brush. Deferred grazing, rotation grazing, and proper stocking rates help to prevent overgrazing. Deferred grazing allows the plants in pastures that are not being used to build up reserves of carbohydrates. Rotating grazing among several pastures allows each area a rest period.

The major management concerns affecting pastureland in Vermilion County are frost heave, high pH, low pH, ponding, poor tilth, root-restrictive layers, water erosion, and wetness. Other concerns include equipment limitations, excessive permeability, excess lime, flooding, limited available water capacity, low fertility, and wind erosion.

Frost heave occurs when ice lenses or bands develop in the soil and drive an ice wedge between two layers of soil near the surface layer. The ice wedges heave the overlying soil layer upward, snapping the roots. Soils that have textures low in content of sand have small pores that hold water and enable ice lenses to form. Selecting adapted forage and hay varieties can reduce the effects of frost heave. Timely deferment of grazing maintains a cover of vegetation on the surface, which insulates the soil and thus helps to minimize the effects of frost heave.

High pH or high reaction in soils affects the availability of many nutrients for plant growth. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Selecting adapted forage and hay varieties helps to overcome this limitation.

Low pH in soils inhibits the uptake of certain nutrients by the plants or accelerates the absorption of certain other elements to the level of toxic concentrations. Either of these conditions affects the health and vigor of plants. Applications of lime should be based on the results of soil tests. The goal is to achieve the optimum pH level for the uptake of the major nutrients by the specific grass, legume, or combination of grasses and legumes.

Ponding occurs when the seasonal high water table is above the surface. Land grading helps to control ponding. Surface ditches and surface inlet tile also help to remove excess water if suitable outlets are available. Management of drainage in conformance with regulations affecting wetlands may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricted use during wet periods helps to keep the pasture in good condition.

Poor tilth can occur in soils as a result of erosion, when part of the subsoil is incorporated into the plow layer. The erosion reduces the content of organic matter and increases the clay content in the surface soil. Intensive rainfall often results in the formation of a crust on the surface. Poor tilth also occurs in somewhat poorly drained and poorly drained soils that have a high clay content, regardless of organic matter content, and in soils that have been excessively tilled. Poor tilth reduces the rate of water infiltration and increases the runoff rate and the susceptibility to erosion on the

more sloping soils. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because these soils can be tilled only within a narrow range in moisture content, seedbed preparation is difficult. Minimizing tillage and timing conservation tillage operations to near optimal soil moisture conditions during pasture establishment or pasture renovation can improve tilth. Proper stocking rates, rotation grazing, and timely deferment of grazing, especially during wet periods, help to keep the pasture in good condition. The proper location of livestock watering facilities helps to minimize surface compaction or the formation of ruts by making it unnecessary for cattle to travel long distances up and down the steep slopes.

Some soils have a root-restrictive layer consisting of a dense layer of till within a depth of 40 inches. This layer inhibits the penetration of roots and reduces the amount of total water in the soil that is available to plants. Deep-rooted perennial legumes and grasses make the most efficient use of the limited amount of moisture. Selecting drought-tolerant species of grasses and legumes can improve forage production.

Water erosion can occur in overgrazed areas or during pasture establishment and renovation if the surface is not protected against the impact of raindrops. Erosion results in poor tilth, which reduces the rate of water infiltration and increases the runoff rate. As a result, onsite and offsite sedimentation, water pollution by sedimentation, and an increase in the runoff of livestock manure and other added nutrients can occur. Erosion can be controlled by deferring grazing, which prevents overgrazing and thus also helps to prevent surface compaction and excessive runoff and erosion. Tilling on the contour, using a no-till system of seeding when a seedbed is prepared or the pasture is renovated, and selecting adapted forage and hay varieties also help to control erosion.

Wetness occurs when the seasonal high water table is at or near the surface. Subsurface tile drains can lower the seasonal high water table if suitable outlets are available. Management of drainage in conformance with regulations affecting wetlands may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricted use during wet periods helps to keep the pasture in good condition.

Equipment limitations occur in areas that have slopes of more than 10 percent. These limitations can cause rapid wear of equipment. They can also present problems with fertilization, harvest, pasture renovation, and seedbed preparation. They cannot be easily overcome.

Excessive permeability can occur in soils that have a high content of sand and thus have many large pores. The capacity of these soils to retain moisture for plant use is limited. The deep leaching of nutrients and pesticides that can result can increase the risk of ground-water pollution. Irrigation can be used to supply the moisture needed for plant growth. Frequent applications of a small amount of fertilizer are needed when stands of legumes and grasses are established or renovated. A single large application of fertilizer can result in excessive loss of plant nutrients through leaching.

Excess lime occurs in soils that have a high content of calcium carbonate at or near the surface or in the upper part of the subsoil. This limitation can inhibit the uptake of certain nutrients and micronutrients by the plants or accelerates the absorption of certain other elements to the level of toxic concentrations. It affects the health and vigor of plants. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Selecting adapted forage and hay varieties helps to overcome this limitation.

Frequent or occasional flooding can damage forage stands and delay harvesting in some years. Dikes and diversions help to control the extent of damage caused by flooding. Surface drainage ditches help to remove floodwater if suitable outlets are available. Management of drainage in conformance with regulations affecting wetlands may require special permits and extra planning. Selecting species of grasses and legumes that are adapted to a shorter growing season and wetter conditions can

improve forage production. Restricting use during wet periods helps to keep the pasture in good condition.

Conserving moisture is important in areas where the soils have a limited available water capacity. The quality and quantity of pasture may be reduced if the available water is inadequate for the maintenance of a healthy community of desired pasture species and thus the desired number of livestock. A poor quality pasture may increase the hazard of erosion and increase the runoff of pollutants. Reducing the evaporation and runoff rates and increasing the rate of water infiltration can conserve soil moisture. Measures that conserve soil moisture include applying conservation tillage and conservation cropping systems, establishing field windbreaks, and leaving crop residue on the surface. Planting drought-resistant species of grasses and legumes helps to establish a cover of vegetation. The plants should not be clipped or grazed until they are sufficiently established.

Low fertility occurs in soils that have a low content of organic matter and a low cation-exchange capacity. The capacity of the soil to retain nutrients for plant use is limited. Low fertility levels affect the health and vigor of the plants and thus have a direct impact on the quantity and quality of livestock produced. Frequent applications of small amounts of fertilizer help to prevent excessive loss of plant nutrients through leaching. Using legumes as part of a seeding mixture can provide nitrogen to the grass varieties. Timely deferment of grazing helps to maintain a cover of vegetation on the surface and thus helps to maintain the content of organic matter. Organic matter is a source of nutrients in the soil.

Pasture and hayland plants grown on soils that are susceptible to wind erosion can be damaged by moving soil particles. If the soil is tilled for the reseeding of pasture or hay crops, planting winter cover crops, using a system of conservation tillage that leaves crop residue on the surface, and keeping the surface rough help to control wind erosion. Overgrazing or grazing during wet periods reduces the extent of plant cover and thus increases the hazard of wind erosion. Proper stocking rates, rotation grazing, and timely deferment of grazing, especially during wet periods, help to keep the pasture in good condition.

The criteria used to determine some of the limitations or hazards in table 6 are described in the following paragraphs.

Equipment limitation.—The slope is more than 10 percent.

Excessive permeability.—The lower limit of the permeability range within the soil profile is more than 6 inches per hour.

Excess lime.—The upper limit of the calcium carbonate equivalent is 15 percent or more in all layers within a depth of 20 inches.

Flooding.—The soil is subject to occasional or frequent flooding.

Frost heave.—The potential for frost action is moderate or high, and the drainage class is poorly drained or very poorly drained.

High pH.—The lower limit of pH within a depth of 40 inches is 7.4 or more.

Limited available water capacity.—The available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

Low fertility.—The average content of organic matter in the surface layer is less than 1 percent, or the average cation-exchange capacity (CEC) is less than 7.

Low pH.—The lower limit of pH within a depth of 40 inches is 5.5 or less.

Ponding.—The upper limit of the ponding depth is more than 0 inches.

Poor tilth.—The content of clay in the surface layer of somewhat poorly drained, poorly drained, or severely eroded soils is 27 percent or more.

Root-restrictive layer.—Dense material is within a depth of 40 inches.

Water erosion.—The Kw factor of the surface layer multiplied by the upper limit of the slope is 0.8 or more, and the slope is 3 percent or more.

Wetness.—The seasonal high water table is within a depth of 1.5 feet.

Wind erosion.—The wind erodibility group (WEG) is 1 or 2.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 7. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered (Olson and Lang, 2000; Olson and others, 2000).

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Yields for grass-legume pasture under an average level of management also are shown in table 7. Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields in the table reflect the productive capacity of each soil for each of the principal crops and pasture plants. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 7 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, or wildlife habitat.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section “Soil Series and Detailed Soil Map Units” and in the yields table.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation’s short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation’s prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed

information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in the survey area has been the conversion of some prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that generally are less productive than prime farmland.

About 519,000 acres, or 90 percent of the total acreage in Vermilion County, meets the requirements for prime farmland.

The map units in the survey area that are considered prime farmland are listed in table 8. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 5. The location is shown on the detailed soil maps. Some of the soil qualities that affect use and management are described under the heading "Soil Series and Detailed Soil Map Units."

Hydric Soils

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform. Table 9 lists the map units that include hydric soils, either as major components or as soils of minor extent. The hydric soils listed in the table meet the definition of a hydric soil and have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and Vasilas, 2006).

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
   B. are poorly drained or very poorly drained and have either:
      1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
      2) a water table at a depth of 0.5 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
      3) a water table at a depth of 1.0 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Windbreaks are often planted on land that did not originally support trees. Knowledge of how well the trees grow on such land can be gained only by observing and recording the growth of trees that have been planted and have survived. Many popular windbreak species are not indigenous to the areas in which they are planted.

Each tree or shrub species has certain climatic and physiographic limits. Within these parameters, a tree or shrub may grow well or grow poorly, depending on the characteristics of the soil. Each tree or shrub has definable potential heights in a given physiographic area and under a given climate. Accurate definitions of potential heights are necessary when a windbreak is planned and designed.

Table 10 shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service or from a commercial nursery.

Forestland Management and Productivity

Little of the presettlement forestland in the survey area has been untouched or properly managed. Over the past century, new forests have been created only by natural succession of fallow upland and bottom-land areas, by abandonment of low-yielding cropland, and by seeding or planting of seedlings. Only a small percentage of the present forestland is under proper timber management. Areas of grazed forestland are slowly recovering, but many decades or a full forest generation may be needed before these areas can become productive without management.

The composition of today's forestland is changing because of the introduction of species from around the world. The planting of trees for windbreaks, for erosion control, and for their ornamental value has significantly affected the forestland.

In 2000, Vermilion County had about 42,010 acres of forestland (Illinois Department of Agriculture, 2002). This acreage represents about 7 percent of the total land area in the county. Several forest types occur in the county, including flood-plain forests, upland forests (fig. 11), and savannas.

The forests in the county are esthetically pleasing, but they also serve to protect and enhance watershed quality, recreation, and wildlife habitat. The small amount of forestland that still exists in the county could be greatly improved if proper management measures were applied. Assistance in establishing, improving, or managing forestland is available from foresters or natural resource specialists with various local, State, and Federal agencies, including the Illinois Department of Natural Resources, the Forest Service, the Natural Resources Conservation Service, and the local Soil and Water Conservation District.

Forestland Management

The tables described in this section rate the soils according to the limitations that affect various aspects of forestland management.

Forestland Harvest Equipment Considerations

Table 11 provides information regarding the use of harvest equipment in areas used as forestland.

For most soils spring is the most limiting season. Alternate thawing and freezing during snowmelt cause saturation and low strength of the surface soil layers. When thawing is complete, saturation continues for short periods in well drained soils to nearly all year in very poorly drained soils in depressions. Degrees of wetness are generally proportionate to the depth at which a seasonal high water table occurs and the duration of the high water table. The water table generally is lower in the summer during the heavy use of moisture by vegetation and is nearer to the surface during periods when absorbed precipitation is greater than the vegetation requires. Harvesting during periods of saturation usually results in severe soil damage, except when the soil is frozen. The preferred season for timber harvest on many soils is winter, when wetness and low soil strength can be overcome by freezing.

Figure 11.—An upland forest community in an area of Strawn silt loam, 35 to 75 percent slopes.

Considerations shown in the table are as follows:

Slope.—The upper limit of the slope range is more than 15 percent.

Flooding.—The soil is frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched water table (any drainage class).

Susceptible to rutting and wheel slippage (low strength).—The AASHTO classification is A-6, A-7, or A-8 in any layer at a depth of 20 inches or less.

Poor traction (loose sandy material).—The USDA texture includes sands or loamy sands in any layer at a depth of 10 inches or less.

Forestland Haul Road and Log Landing Considerations

Table 12 provides information regarding the use of the soils as haul roads and log landings. Log landings are areas where logs are assembled for transportation. Areas that require little or no cutting, filling, or surface preparation are desired. Haul roads serve as transportation routes from log landings to primary roads. Generally, haul roads are unpaved, but some are graveled.

For haul roads, considerations shown in the table are as follows:

Slope.—The slope is 8 percent or more.

Flooding.—The soil is frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched water table (any drainage class).

Low bearing strength.—The AASHTO classification is A-6, A-7, or A-8 in any layer within a depth of 20 inches.

For log landings, considerations shown in the table are as follows:

Slope.—The slope is more than 6 percent.

Flooding.—The soil is occasionally flooded or frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched water table (any drainage class).

Susceptible to rutting and wheel slippage (low strength).—The AASHTO classification is A-6, A-7, or A-8 in any layer at a depth of 20 inches or less.

Forestland Site Preparation and Planting Considerations

Table 13 provides information regarding considerations affecting site preparation and planting in areas used as forestland.

Considerations shown in the table are as follows:

Slope.—The upper limit of the slope range is more than 15 percent.

Flooding.—The soil is frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched water table (any drainage class).

Water erosion.—The slope is 8 percent or more.

Potential poor tilth and compaction.—The AASHTO classification is A-6 or A-7 in the upper 10 inches.

Forestland Productivity

Table 14 can help woodland owners or forest managers plan the use of soils for wood crops. Only those soils commonly used for wood crops are listed.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or online at http://soils.usda.gov/technical/.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Suggested trees to plant are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Recreation

Vermilion County offers a wide variety of recreational facilities. The Vermilion County Conservation District, which was formed in 1966, manages four major recreational facilities. These are the Forest Glen Preserve, Lake Vermilion County Park, Kennekuk Cove County Park, and Heron County Park. Outdoor activities available at the county parks include camping, picnicking, fishing, hiking, bicycling, boating/canoeing, wildlife viewing, and mushroom and wild game hunting. The State-owned Harry "Babe" Woodyard State Natural Area, the Middle Fork State Fish and Wildlife Area, and the Kickapoo State Recreation Area (fig. 12) also offer recreational opportunities, such as camping, hiking, picnicking, boating/canoeing, fishing, hunting, horseback riding, cross-country skiing, and snowmobiling. Most municipalities in the county also offer a variety of recreational services, including playgrounds, swimming pools, and golf courses.

The soils of the survey area are rated in tables 15a and 15b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil

Figure 12.—Strip-mine lakes at the Kickapoo State Recreation Area provide fishing and hunting opportunities.

features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 15a and 15b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary

facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil (fig. 13).

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil

Figure 13.—An area of Camden silt loam, 2 to 5 percent slopes, which is well suited to use as camp areas or picnic areas.

properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Because of diverse topography resulting primarily from glacial action, Vermilion County provides a variety of habitats that support an abundance of wildlife species. Much of the county was once part of a broad, tall-grass prairie that contained wet meadows, marshes, and areas of open water. This broad area is near the southern limit of the midwestern prairie pothole region that provided valuable nesting and stop-over habitat for migratory waterfowl and habitat for other wetland and openland wildlife. Although some areas were woodlands, especially those along rivers and creeks and on moderately steep to very steep landforms, the native plant communities were dominated by tall prairie grasses.

As the county was settled, conversion of land for agriculture and urbanization altered these natural communities and the wildlife populations associated with them. The landscape in Vermilion County is now a mosaic of cropland, farmsteads, urban development, pasture, small woodlots, and wetlands and other waterways supporting wildlife species that have adapted to the human-altered landscape. These species include white-tailed deer, pheasants, squirrels, cardinals, raccoons, foxes, and coyotes.

A number of areas are managed for wildlife in the county. The Kennekuk Cove County Park covers 3,000 acres and includes a 170-acre lake and three Illinois Nature Preserves within its boundaries. It is managed by the Vermilion County Conservation District. Adjacent to the Kennekuk Cove County Park is the Middle Fork State Fish and Wildlife Area. The area consists of 2,700 acres of grass, forest, and cropland and provides excellent wildlife habitat. It is managed by the Illinois Department of Natural Resources.

In general, most of the land in the county is not managed primarily for wildlife. Good land management practices, however, commonly improve the habitat for wildlife. For example, farm practices that leave crop residue on the fields during the fall and winter not only help to control erosion but also provide winter cover and food for some wildlife species. Allowing grassed waterways, road ditches, fence lines, set-aside fields, and vacant properties to remain unmowed until early August provides much-needed

habitat for ground-nesting wildlife, such as rabbits, pheasants, and many species of songbirds.

Many temporarily and seasonally flooded wetlands have been impacted by land use practices. Development and cultivation of these wetlands should be avoided. Buffer strips surrounding wetland areas provide food and nesting cover for many wildlife species and keep these areas from filling in with eroded sediment. Wetlands, streambanks, and woodlots should be fenced so that livestock are excluded. Fencing protects and maintains the native plant communities that support wildlife species, helps to control erosion, and improves water quality in streams and rivers.

When attempts are made to restore or manage an area for wildlife, it is important to understand the kinds of soils on the site. For example, soils that have a seasonal high water table will most likely support vegetation that is tolerant of wet conditions and thus attract wetland wildlife species. If the soil series is characterized by wetness or hydric properties but the area does not appear to be susceptible to wetness, there may be an existing drainage ditch or a system of subsurface tile drains. Areas that have been drained can provide opportunities for the restoration of wetland habitat as long as negative impacts on neighboring properties are avoided.

Nonhydric soils in the uplands support communities once dominated by prairie grass and oak savanna habitats. These habitats can also be restored through management that promotes or reestablishes the native plant species while controlling or eliminating competing exotic vegetation.

Assistance with wildlife habitat projects can be obtained from various local, State, and Federal agencies, including the Illinois Department of Natural Resources, the U.S. Fish and Wildlife Service, the Natural Resources Conservation Service, and the local Soil and Water Conservation District.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 16, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are

considerations. Examples of grain and seed crops are corn, soybeans, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are bromegrass, timothy, orchardgrass, clover, alfalfa, and birdsfoot trefoil.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, indiangrass, blueberry, goldenrod, lambsquarters, dandelions, coneflowers, sunflowers, blackberry, ragweed, wheatgrass, and nightshade.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, box elder, birch, maple, green ash, willow, and American elm. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are American plum, hazelnut, dogwood, and arrowwood.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, cedar, and tamarack.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, rushes, sedges, wild rice, arrowhead, waterplantain, cattails, and prairie cordgrass.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, wildlife watering developments, beaver ponds, and other wildlife ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines (fig. 14). These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include Hungarian partridge, ring-necked pheasant, bobwhite quail, sharp-tailed grouse, meadowlark, field sparrow, killdeer, cottontail rabbit, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, thrushes, woodpeckers, owls, squirrels, raccoons, and white-tailed deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, bitterns, rails, kingfishers, muskrat, otter, mink, beaver, frogs, and turtles.

Figure 14.—Field borders provide good habitat for openland wildlife. Pictured is an area of Brenton silt loam, 0 to 2 percent slopes.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey,

determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 17a and 17b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is

inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 18a and 18b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates

that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise

stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 19a and 19b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 19a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 19b, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of reclamation material, roadfill, and topsoil are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of these materials. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable

material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Tables 20a, 20b, and 20c give information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; aquifer-fed excavated ponds; grassed waterways; terraces and diversions; tile drains and underground outlets; and irrigation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Table 20a

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent

water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Table 20b

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity (fig. 15). Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A hazard of wind erosion, a low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Tile drains and underground outlets are used in some areas to remove excess subsurface and surface water from the soil. The ratings in the table apply to undisturbed soils that commonly have a seasonal high water table within a depth of about 3.5 feet. Current land use is not considered in the ratings. Depth to bedrock, a dense layer, or a cemented pan, the content of large stones, and the content of clay influence the ease of digging, filling, and compacting. A seasonal high water table, ponding, and flooding may restrict the period when excavations can be made. The slope influences the use of machinery. Soil texture and depth to the water table influence the resistance to sloughing. Subsidence of organic layers influences grade and stability of tile drains. Limitations affecting areas where the tile line passes through

Figure 15.—A grassed waterway removes excess surface water and helps to prevent the formation of gullies.

soils in which the water table is generally below a depth of 3.5 feet are provided in the table that includes the column "shallow excavations," which is described under the heading "Building Site Development."

Table 20c

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

In a *sprinkler irrigation* system, water is sprayed over the soil surface through pipes or nozzles from a pressure system.

In a *drip or trickle irrigation* system, water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 21 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 16). “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group

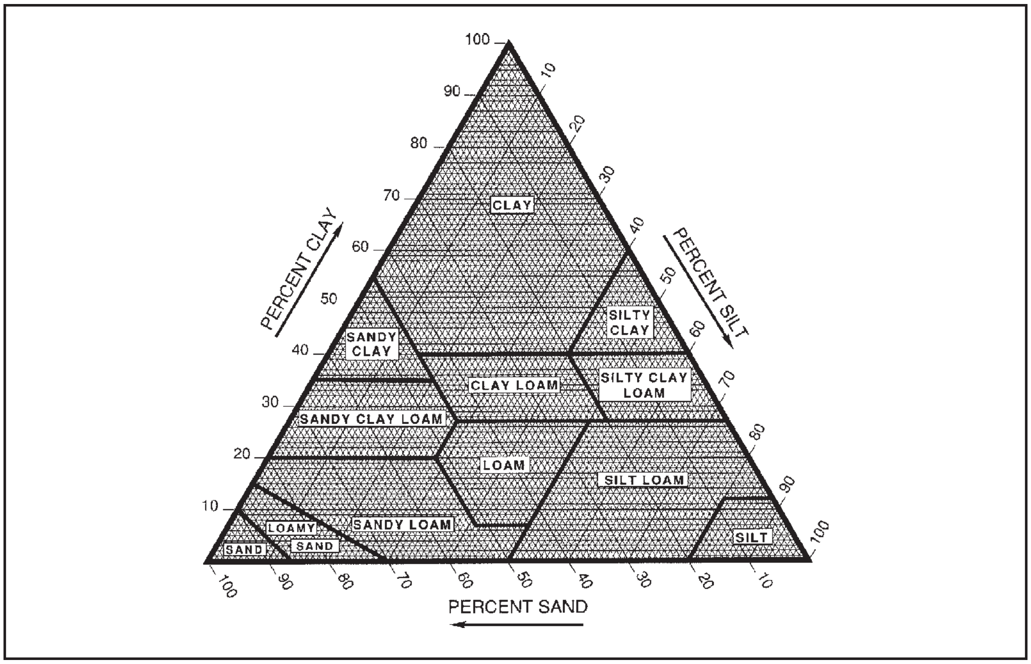


Figure 16.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 22 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as

classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (Ksat) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 22, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops.

Erosion factors are shown in table 22 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook” (available online at http://soils.usda.gov).

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 23 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of exchangeable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Water Features

Table 24 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 24 indicates the depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone for the specified months in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

The table also shows the *kind of water table*, that is, apparent or perched. An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 24 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* of flooding are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year). *Common* is used when the occasional and frequent classes are grouped for certain purposes.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 25 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors

considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Basal till. Compact till deposited beneath the ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Batavia facies (geology). An informal separation of the Henry Formation. The Batavia facies occurs on outwash plains and consists of stratified silt loam to gravelly sandy loam with thin bands of finer or coarser material.

Batestown Member (geology). The medium textured, lowermost unit of diamicton in the Lemont Formation. Diamicton of the Batestown Member generally consists of calcareous, dark gray to gray silt loam to loam that contains lenses of gravel, sand, silt, and clay. Locally, the Batestown Member is finer texturally and therefore similar to the Yorkville Member.

Beach deposits. Material, such as sand and gravel, that is generally laid down parallel to an active or relict shoreline of a postglacial or glacial lake.

Beach ridge. A low, essentially continuous mound of beach or beach-and-dune material accumulated by the action of waves and currents on the backshore of a beach, beyond the present limit of storm waves or the reach of ordinary tides, and occurring singly or as one of a series of approximately parallel deposits. The ridges are roughly parallel to the shoreline and represent successive positions of an advancing shoreline.

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.
Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
Cahokia Formation (geology). Deposits on flood plains and in channels of modern rivers and streams. Mostly poorly sorted sand, silt, or clay containing local deposits of sandy gravel.
Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
Calcium carbonate. A common mineral in sediments and soils.
Canopy. The leafy crown of trees or shrubs. (See Crown.)
Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
Carmi facies (geology). Largely quiet-water lake sediments dominated by well bedded silt and some clay. (See Equality Formation.)
Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.
Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
Catsteps. See Terracettes.
Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.
Chemical treatment. Control of unwanted vegetation through the use of chemicals.
Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
Clay depletions. See Redoximorphic features.
Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.
Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Congeliturbate. Soil material disturbed by frost action.

Conglomerate. A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diamicton. A generic term for a till-like mixture of unsorted, unstratified rock debris composed of a wide range of particle sizes. Use of this term carries no suggestion about how such debris was formed or deposited.

Diatomaceous earth. A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat*

poorly drained, poorly drained, and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune. A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill. See Mine spoil.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

End moraine. A ridgelike accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Equality Formation (geology). This formation consists of gray to red silt and clay, generally shows evidence of bedding structures, and occurs above the Sangamon Geosol. Predominantly occurs as a fine grained lacustrine sediment. Ranges from 26,000 radiocarbon years to present in age. (See Mason Group.)

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building

up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.
Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Geosol. A buried soil that formed on a landscape in the past with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was interrupted by burial. A geosol is a laterally traceable, mappable, geologic weathering profile that has a consistent stratigraphic position. (See Paleosol.)

Glacial (geology). This term embraces both the processes and results of erosion and deposition arising from the presence of an ice mass (glacier) on a landscape.

Glacial lake (relict). An area formerly occupied by a glacial lake. (See Glaciolacustrine deposits.)

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Glasford Formation (geology). Encompasses all till members of Illinoian age in Illinois.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground moraine. An extensive, fairly even layer of till having an uneven or undulating surface.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Haeger Member (geology). The coarse grained, uppermost unit of diamicton in the Lemont Formation. The Haeger Member consists of calcareous, light gray to gray, gravelly sandy loam diamicton that contains lenses of gravel, sand, silt, and clay.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

Henry Formation (geology). Consists of stratified sand and gravel that occurs above the Sangamon Geosol.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Holocene (geology). Postglacial age or time period (interglacial). About 0 to 12,600 years before present. (See Quaternary.)

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illinoian (geology). In Illinois, represents the glacial age of ice advance preceding the Sangamonian and Wisconsinan and following the Yarmouthian and pre-Illinoian during the Pleistocene. This glaciation practically covered the entire State of Illinois with the exception of small portions in northwestern, western, and southern Illinois. (See Pleistocene.)

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Interglacial. A period of time between major glacial stages. (See Holocene, Sangamonian, and Yarmouthian.)

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation include:

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Kame. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography). A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Krotovina. An irregular, tubelike streak in a soil horizon created when tunnels made by a burrowing animal are filled with material from another horizon.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Lamella. A thin (commonly less than 1 cm), discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated within a coarser textured eluviated layer several centimeters to several decimeters thick).

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Lemont Formation (geology). The Lemont Formation of the Wedron Group is the succession of fine to coarse textured gray diamicton units that overlie the Tiskilwa Formation. The Lemont Formation has four differentiated members: the Lemont Member, the Batestown Member, the Yorkville Member, and the Haeger Member. In northern Illinois, the Lemont Formation is not subdivided. The Lemont Formation consists of calcareous, gray, fine to coarse textured diamicton units that contain lenses of gravel, sand, silt, and clay.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Mackinaw facies (geology). An informal separation of the Henry Formation. The Mackinaw facies consists of well sorted sand and gravel outwash deposits in valleys leading outward from glacier fronts. Preserved today as terraces beneath Holocene deposits in major stream and river valleys.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Mason Group (geology). The Mason Group comprises three proglacial and one postglacial sorted sediment formations that represent distinct stratigraphic layers based on grain size and bedding characteristics. The proglacial units are Roxana

Silt, Peoria Silt, and the Henry Formation. The postglacial unit is the Equality Formation.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

MLRA (major land resource area). A geographic area characterized by a particular pattern of land uses, elevation and topography, soils, climate, water resources, and potential natural vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Morton Tongue (geology). The lower part or tongue of Peoria Silt. It is massive, gray to gray-tan, calcareous silt. It ranges in thickness up to 10 feet and is characteristically identified in areas below materials of the Wedron Group. Deposition occurred 25,000 to 20,000 radiocarbon years ago. (See also Richland loess and Peoria Silt.)

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleosol. A general term used to describe a soil that formed on a landscape of the past; it may be a buried soil, a relict soil, or an exhumed soil. (See Geosol.)

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Peoria Silt (geology). Light yellow tan to gray calcareous silt that grades from sandy silt in the bluffs to clayey silt away from the bluffs. The upper part of Peoria Silt is also informally known as Richland loess where it overlies the Wedron Group. The lower part, where buried by materials of the Wedron Group, is known as the Morton Tongue. Peoria Silt covers most of Illinois and ranges in thickness from 80 feet in bluff areas along the Mississippi River to 1 or 2 feet in areas away from the bluffs. Deposition occurred 25,000 to 12,000 years ago. (See Mason Group.)

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Pleistocene (geology). The period in a geologic time series that encompasses all glacial and interglacial stages. Includes the Wisconsinan, Sangamonian, Illinoian, Yarmouthian, and pre-Illinoian. The period covered is about 12,600 to 2 million years before present.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Quaternary (geology). The latest period of time in the stratigraphic column, about 0 to 2 million years before present, represented by local accumulations of glacial (Pleistocene) and postglacial (Holocene) deposits. An artificial division of time used to separate pre-human from post-human sedimentation.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of

redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Richland loess (geology). An informal classification for the upper tongue of Peoria Silt that overlies the Wedron Group and the Henry and Equality Formations of the Mason Group. It is massive tan silt that is calcareous below the leach zone. The surface of modern soils in upland areas of the Wisconsinan till plain forms the upper boundary of this unit. The Richland loess ranges in thickness from 20 feet in bluff areas along the Illinois River to 1 or 2 feet in areas away from the bluffs. Deposition occurred 20,000 to 12,000 years ago. (See also Morton Tongue and Peoria Silt.)

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Roxana Silt (geology). Brownish red and gray silt loam. Typically leached of carbonates. It overlies the Sangamon Geosol and is typically bounded above by Peoria Silt. It can be distinguished from Peoria Silt by being darker brown and more clayey. Deposition occurred 75,000 to 27,000 radiocarbon years ago. (See Mason Group.)

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sangamonian (geology). In Illinois, represents an interglacial age between the Illinoian and Wisconsinan glacial stages during the Pleistocene. (See Pleistocene; Geosol.)

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their

clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 5 percent
Strongly sloping	5 to 10 percent
Moderately steep	10 to 18 percent
Steep	18 to 35 percent
Very steep	35 percent and higher

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce

a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.
Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.
Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.
Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.
Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.
Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.
Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.
Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.
Wedron Group (geology). Mostly diamicton of the Wisconsinan Age.
Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.
Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.
Windthrow. The uprooting and tipping over of trees by the wind.
Wisconsinan (geology). In Illinois, represents the last glacial stage of ice advance during the Pleistocene. Follows the Sangamonian interglacial stage. (See Pleistocene.)
Yarmouthian (geology). In Illinois, represents an interglacial stage between the pre-Illinoian and Illinoian glacial stages during the Pleistocene. (See Pleistocene.)
Yorkville Member (geology). The Yorkville Member is the middle unit of diamicton in the Lemont Formation. The Yorkville Member generally consists of calcareous gray, fine textured (silty clay to silty clay loam) diamicton that contains lenses of gravel, sand, silt, and clay. It typically oxidizes to olive brown. Locally, the Yorkville Member is coarser texturally and therefore similar to the Batestown Member.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at Danville, Illinois)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	34.2	17.3	25.7	61	-17	2	2.05	0.87	3.19	5	6.4
February---	40.0	21.9	31.0	68	-12	5	1.99	.84	2.98	4	4.4
March------	51.9	31.5	41.7	79	4	50	3.17	1.96	4.34	7	3.0
April------	64.4	41.0	52.7	85	20	159	3.86	1.89	5.68	8	.2
May--------	75.2	50.7	62.9	91	31	405	4.47	2.58	6.10	8	.0
June-------	83.5	60.0	71.8	96	42	652	4.70	2.16	7.21	7	.0
July-------	86.2	64.3	75.3	97	49	783	4.39	2.06	6.59	7	.0
August-----	84.1	62.6	73.4	95	47	723	3.94	2.17	5.39	5	.0
September--	78.4	54.7	66.6	93	34	498	3.03	1.44	4.50	5	.0
October----	66.6	43.3	55.0	86	23	204	3.04	1.64	4.16	5	.1
November---	51.6	33.8	42.7	75	12	48	3.53	1.82	5.05	6	1.0
December---	38.7	23.0	30.9	65	-9	8	2.79	1.49	4.07	6	5.8
Yearly:											
Average---	62.9	42.0	52.5	---	---	---	---	---	---	---	---
Extreme---	102	-26	---	98	-20	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,537	40.96	35.11	46.65	73	20.9

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Danville, Illinois)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 15	Apr. 24	May 10
2 years in 10 later than--	Apr. 10	Apr. 20	May 5
5 years in 10 later than--	Apr. 1	Apr. 11	Apr. 25
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 18	Oct. 10	Sept. 28
2 years in 10 earlier than--	Oct. 24	Oct. 15	Oct. 2
5 years in 10 earlier than--	Nov. 6	Oct. 25	Oct. 10

Table 3.--Growing Season

(Recorded in the period 1971-2000 at Danville, Illinois)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	196	176	146
8 years in 10	204	183	154
5 years in 10	218	196	167
2 years in 10	232	209	181
1 year in 10	239	215	188

Table 4.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Alvin	Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs
Ambraw	Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls
Andres	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Ashkum	Fine, mixed, superactive, mesic Typic Endoaquolls
Birkbeck	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Blount	Fine, illitic, mesic Aeric Epiaqualfs
Brenton	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Bryce	Fine, mixed, superactive, mesic Vertic Endoaquolls
Camden	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Catlin	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Chatsworth	Fine, illitic, mesic Oxyaquic Eutrudepts
Clarence	Fine, illitic, mesic Aquic Argiudolls
*Clarence	Fine, illitic, mesic Aquollic Hapludalfs
*Dana	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Dozaville	Fine-silty, mixed, superactive, mesic Fluventic Hapludolls
Drummer	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Elburn	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Elliott	Fine, illitic, mesic Aquic Argiudolls
*Elliott	Fine, illitic, mesic Aquollic Hapludalfs
Fincastle	Fine-silty, mixed, superactive, mesic Aeric Epiaqualfs
Flanagan	Fine, smectitic, mesic Aquic Argiudolls
Harpster	Fine-silty, mixed, superactive, mesic Typic Calciaquolls
Haskins	Fine-loamy, mixed, active, mesic Aeric Epiaqualfs
Ipava	Fine, smectitic, mesic Aquic Argiudolls
Jasper	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
*Jasper	Fine-loamy, mixed, superactive, mesic Mollic Hapludalfs
Kendall	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Keomah	Fine, smectitic, mesic Aeric Endoaqualfs
Kishwaukee	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
La Hogue	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Landes	Coarse-loamy, mixed, superactive, mesic Fluventic Hapludolls
Lenzburg	Fine-loamy, mixed, active, calcareous, mesic Haplic Udarents
Lisbon	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Marseilles	Fine-silty, mixed, active, mesic Typic Hapludalfs
Martinsville	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Milford	Fine, mixed, superactive, mesic Typic Endoaquolls
Mokena	Fine-loamy, mixed, active, mesic Aquic Argiudolls
Mona	Fine-loamy, mixed, superactive, mesic Oxyaquic Argiudolls
Ockley	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Odell	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Onarga	Coarse-loamy, mixed, superactive, mesic Typic Argiudolls
*Onarga	Coarse-loamy, mixed, superactive, mesic Mollic Hapludalfs
Orthents, loamy	Fine-loamy, mixed, active, nonacid, mesic Oxyaquic Udorthents
Ozaukee	Fine, illitic, mesic Oxyaquic Hapludalfs
*Ozaukee	Fine-silty, illitic, mesic Oxyaquic Hapludalfs
*Parr	Fine-loamy, mixed, active, mesic Mollic Oxyaquic Hapludalfs
*Parr	Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs
Pella	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Penfield	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Peotone	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Plano	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Proctor	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Proctor	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Rantoul	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Raub	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Rossburg	Fine-loamy, mixed, superactive, mesic Fluventic Hapludolls
Rowe	Fine, mixed, superactive, mesic Vertic Argiaquolls
Sabina	Fine, smectitic, mesic Aeric Epiaqualfs
Sable	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Sawmill	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

Table 4.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
*Saybrook	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Selma	Fine-loamy, mixed, superactive, mesic Typic Endoaquolls
Senachwine	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Shaffton	Fine-loamy, mixed, superactive, mesic Fluvaquentic Hapludolls
Sparta	Sandy, mixed, mesic Entic Hapludolls
Starks	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Strawn	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Swygert	Fine, mixed, active, mesic Aquic Argiudolls
*Swygert	Fine, mixed, active, mesic Aquollic Hapludalfs
Symerton	Fine-loamy, mixed, superactive, mesic Oxyaquic Argiudolls
*Varna	Fine, illitic, mesic Mollic Oxyaquic Hapludalfs
Whitaker	Fine-loamy, mixed, active, mesic Aeric Endoaqualfs
Xenia	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
17A	Keomah silt loam, 0 to 2 percent slopes	2,405	0.4
23A	Blount silt loam, 0 to 2 percent slopes	12,398	2.1
23B2	Blount silt loam, 2 to 4 percent slopes, eroded	10,275	1.8
43A	Ipava silt loam, 0 to 2 percent slopes	3,827	0.7
56B2	Dana silt loam, 2 to 5 percent slopes, eroded	6,887	1.2
59A	Lisbon silt loam, 0 to 2 percent slopes	5,035	0.9
67A	Harpster silty clay loam, 0 to 2 percent slopes	663	0.1
68A	Sable silty clay loam, 0 to 2 percent slopes	5,306	0.9
69A	Milford silty clay loam, 0 to 2 percent slopes	14,254	2.5
88B	Sparta loamy fine sand, 1 to 6 percent slopes	482	*
91A	Swygert silty clay loam, 0 to 2 percent slopes	6,641	1.2
91B2	Swygert silty clay loam, 2 to 4 percent slopes, eroded	3,348	0.6
91C2	Swygert silty clay loam, 4 to 6 percent slopes, eroded	175	*
102A	La Hogue loam, 0 to 2 percent slopes	6,427	1.1
125A	Selma loam, 0 to 2 percent slopes	4,004	0.7
131B	Alvin fine sandy loam, 2 to 5 percent slopes	942	0.2
132A	Starks silt loam, 0 to 2 percent slopes	2,239	0.4
134B	Camden silt loam, 2 to 5 percent slopes	2,126	0.4
145B2	Saybrook silt loam, 2 to 5 percent slopes, eroded	1,552	0.3
146A	Elliott silt loam, 0 to 2 percent slopes	48,267	8.4
146B2	Elliott silty clay loam, 2 to 4 percent slopes, eroded	23,713	4.1
146C2	Elliott silty clay loam, 4 to 6 percent slopes, eroded	1,098	0.2
147A	Clarence silty clay loam, 0 to 2 percent slopes	2,898	0.5
147B2	Clarence silty clay loam, 2 to 4 percent slopes, eroded	968	0.2
147C2	Clarence silty clay loam, 4 to 6 percent slopes, eroded	84	*
148A	Proctor silt loam, 0 to 2 percent slopes	941	0.2
148B	Proctor silt loam, 2 to 5 percent slopes	2,389	0.4
148C2	Proctor silt loam, 5 to 10 percent slopes, eroded	259	*
149A	Brenton silt loam, 0 to 2 percent slopes	9,208	1.6
150B	Onarga fine sandy loam, 2 to 5 percent slopes	866	0.2
150C2	Onarga fine sandy loam, 5 to 10 percent slopes, eroded	190	*
152A	Drummer silty clay loam, 0 to 2 percent slopes	95,134	16.5
153A	Pella silty clay loam, 0 to 2 percent slopes	2,925	0.5
154A	Flanagan silt loam, 0 to 2 percent slopes	55,434	9.6
171B	Catlin silt loam, 2 to 5 percent slopes	3,605	0.6
182A	Peotone mucky silty clay loam, marly substratum, 0 to 2 percent slopes	315	*
198A	Elburn silt loam, 0 to 2 percent slopes	4,676	0.8
199B	Plano silt loam, 2 to 5 percent slopes	1,997	0.3
221B2	Parr silt loam, 2 to 5 percent slopes, eroded	2,684	0.5
221C3	Parr clay loam, 5 to 10 percent slopes, severely eroded	268	*
223B2	Varna silt loam, 2 to 4 percent slopes, eroded	1,741	0.3
223C2	Varna silt loam, 4 to 6 percent slopes, eroded	1,533	0.3
223D2	Varna silt loam, 6 to 12 percent slopes, eroded	55	*
224G	Strawn silt loam, 35 to 75 percent slopes	9,295	1.6
230A	Rowe silty clay loam, 0 to 2 percent slopes	3,436	0.6
232A	Ashkum silty clay loam, 0 to 2 percent slopes	63,781	11.1
233B	Birkbeck silt loam, 2 to 5 percent slopes	2,174	0.4
235A	Bryce silty clay, 0 to 2 percent slopes	14,460	2.5
236A	Sabina silt loam, 0 to 2 percent slopes	12,260	2.1
238A	Rantoul silty clay, 0 to 2 percent slopes	367	*
241D3	Chatsworth silty clay, 6 to 12 percent slopes, severely eroded	141	*
242A	Kendall silt loam, 0 to 2 percent slopes	3,382	0.6
291B	Xenia silt loam, 2 to 5 percent slopes	8,179	1.4
293A	Andres silt loam, 0 to 2 percent slopes	16,208	2.8
294B	Symerton silt loam, 2 to 5 percent slopes	3,551	0.6
295A	Mokena silt loam, 0 to 2 percent slopes	1,424	0.2
330A	Peotone silty clay loam, 0 to 2 percent slopes	1,337	0.2
387B	Ockley silt loam, 2 to 5 percent slopes	1,223	0.2
440A	Jasper loam, 0 to 2 percent slopes	1,908	0.3
440B	Jasper loam, 2 to 5 percent slopes	994	0.2
440C2	Jasper loam, 5 to 10 percent slopes, eroded	206	*
448B	Mona silt loam, 2 to 5 percent slopes	755	0.1

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
481A	Raub silt loam, 0 to 2 percent slopes	9,509	1.6
490A	Odell silt loam, 0 to 2 percent slopes	647	0.1
496A	Fincastle silt loam, 0 to 2 percent slopes	10,772	1.9
496B2	Fincastle silt loam, 2 to 5 percent slopes, eroded	2,998	0.5
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded	1,070	0.2
530D2	Ozaukee silt loam, 6 to 12 percent slopes, eroded	1,538	0.3
530D3	Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded	88	*
530E2	Ozaukee silt loam, 12 to 20 percent slopes, eroded	2,432	0.4
530F	Ozaukee silt loam, 20 to 30 percent slopes	1,628	0.3
530G	Ozaukee silt loam, 30 to 70 percent slopes	2,069	0.4
533	Urban land	1,849	0.3
536	Dumps, mine	138	*
549G	Marseilles loam, 40 to 80 percent slopes	1,296	0.2
570B	Martinsville silt loam, 2 to 5 percent slopes	2,064	0.4
570C2	Martinsville loam, 5 to 10 percent slopes, eroded	914	0.2
570D2	Martinsville loam, 10 to 18 percent slopes, eroded	135	*
570F	Martinsville loam, 18 to 35 percent slopes	431	*
571A	Whitaker loam, 0 to 2 percent slopes	639	0.1
618C2	Senachwine silt loam, 5 to 10 percent slopes, eroded	1,561	0.3
618C3	Senachwine clay loam, 5 to 10 percent slopes, severely eroded	755	0.1
618D2	Senachwine silt loam, 10 to 18 percent slopes, eroded	588	0.1
618E2	Senachwine silt loam, 18 to 25 percent slopes, eroded	272	*
618F	Senachwine silt loam, 18 to 35 percent slopes	1,054	0.2
623A	Kishwaukee silt loam, 0 to 2 percent slopes	1,559	0.3
687B	Penfield loam, 2 to 5 percent slopes	3	*
758A	Haskins loam, 0 to 2 percent slopes	834	0.1
802B	Orthents, loamy, undulating	2,200	0.4
802F	Orthents, loamy, steep	414	*
864	Pits, quarry	549	*
865	Pits, gravel	351	*
871B	Lenzburg loam, 1 to 7 percent slopes	3,585	0.6
871G	Lenzburg gravelly loam, 20 to 70 percent slopes	2,884	0.5
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	5,931	1.0
3183A	Shaffton loam, 0 to 2 percent slopes, frequently flooded	5,107	0.9
3302A	Ambraw loam, 0 to 2 percent slopes, frequently flooded	2,622	0.5
3473A	Rossburg silt loam, 0 to 2 percent slopes, frequently flooded	5	*
7304A	Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded	2,385	0.4
8304A	Landes fine sandy loam, 0 to 2 percent slopes, occasionally flooded	2,868	0.5
8473A	Rossburg loam, 0 to 2 percent slopes, occasionally flooded	1,126	0.2
8674A	Dozaville silt loam, 0 to 2 percent slopes, occasionally flooded	1,196	0.2
MW	Miscellaneous water	43	*
W	Water	3,606	0.6
	Total	577,030	100.0

* Less than 0.1 percent.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland

(See text for a description of the limitations and hazards listed in this table. Only the soils that are generally available for use as cropland or pastureland are listed. Absence of an entry indicates that the soil is generally not suited to use as cropland or pastureland)

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
17A:		
Keomah	Wetness, crusting, restricted permeability	Wetness, low pH
23A:		
Blount	Wetness, root-restrictive layer, high pH, crusting, restricted permeability	Wetness, root-restrictive layer, high pH
23B2:		
Blount	Wetness, root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Wetness, root-restrictive layer, high pH, water erosion
43A:		
Ipava	Wetness	Wetness
56B2:		
Dana	Crusting, water erosion	Low pH, water erosion
59A:		
Lisbon	Wetness, high pH	Wetness, high pH
67A:		
Harpster	Ponding, poor tilth, excess lime	Ponding, excess lime, frost heave, poor tilth
68A:		
Sable	Ponding, poor tilth	Ponding, frost heave, poor tilth
69A:		
Milford	Ponding, poor tilth	Ponding, frost heave, poor tilth
88B:		
Sparta	Wind erosion, limited available water capacity, excessive permeability	Low pH, wind erosion, limited available water capacity, excessive permeability
91A:		
Swygert	Wetness, root-restrictive layer, poor tilth, high pH, restricted permeability	Wetness, root-restrictive layer, high pH, poor tilth
91B2:		
Swygert	Wetness, root-restrictive layer, poor tilth, high pH, restricted permeability, water erosion	Wetness, root-restrictive layer, poor tilth, high pH, water erosion
91C2:		
Swygert	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, restricted permeability	Wetness, root-restrictive layer, poor tilth, high pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
102A:		
La Hogue	Wetness	Wetness, low pH
125A:		
Selma	Ponding	Ponding, frost heave
131B:		
Alvin	Water erosion	Low pH, low fertility, water erosion
132A:		
Starks	Wetness, crusting	Wetness, low pH
134B:		
Camden	Crusting, water erosion	Low pH, water erosion
145B2:		
Saybrook	High pH, water erosion	High pH, water erosion
146A:		
Elliott	Wetness, root-restrictive layer, restricted permeability	Wetness, root-restrictive layer
146B2:		
Elliott	Wetness, root-restrictive layer, poor tilth, high pH, restricted permeability, water erosion	Wetness, root-restrictive layer, poor tilth, high pH, water erosion
146C2:		
Elliott	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, restricted permeability	Wetness, root-restrictive layer, poor tilth, high pH, water erosion
147A:		
Clarence	Wetness, root-restrictive layer, poor tilth, high pH, limited available water capacity, restricted permeability	Wetness, root-restrictive layer, high pH, limited available water capacity, poor tilth
147B2:		
Clarence	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, limited available water capacity, restricted permeability	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, limited available water capacity
147C2:		
Clarence	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, limited available water capacity, restricted permeability	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, limited available water capacity
148A:		
Proctor	No major limitations	Low pH
148B:		
Proctor	Water erosion	Low pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
148C2:		
Proctor	Water erosion	Low pH, water erosion
149A:		
Brenton	Wetness	Wetness
150B:		
Onarga	Water erosion	Low pH, water erosion
150C2:		
Onarga	Water erosion	Low pH, water erosion
152A:		
Drummer	Ponding, poor tilth	Ponding, frost heave, poor tilth
153A:		
Pella	Ponding, high pH, poor tilth	Ponding, high pH, frost heave, poor tilth
154A:		
Flanagan	Wetness	Wetness
171B:		
Catlin	Water erosion	Low pH, water erosion
182A:		
Peotone	Ponding, restricted permeability, poor tilth	Ponding, frost heave, poor tilth
198A:		
Elburn	Wetness	Wetness
199B:		
Plano	Water erosion	Low pH, water erosion
221B2:		
Parr	High pH, crusting, water erosion	High pH, water erosion
221C3:		
Parr	Poor tilth, high pH, water erosion	Poor tilth, high pH, water erosion
223B2:		
Varna	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
223C2:		
Varna	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
223D2:		
Varna	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
224G:		
Strawn	---	---

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
230A:		
Rowe	Ponding, poor tilth, restricted permeability	Ponding, low pH, frost heave, poor tilth
232A:		
Ashkum	Ponding, poor tilth	Ponding, frost heave, poor tilth
233B:		
Birkbeck	Crusting, water erosion	Low pH, water erosion
235A:		
Bryce	Ponding, poor tilth, restricted permeability	Ponding, frost heave, poor tilth
236A:		
Sabina	Wetness, crusting	Wetness, low pH
238A:		
Rantoul	Ponding, poor tilth, restricted permeability	Ponding, frost heave, poor tilth
241D3:		
Chatsworth	---	Root-restrictive layer, poor tilth, water erosion, limited available water capacity, low fertility, excess lime
242A:		
Kendall	Wetness, crusting	Wetness, low pH
291B:		
Xenia	Wetness, crusting, water erosion	Wetness, low pH, water erosion
293A:		
Andres	Wetness	Wetness
294B:		
Symerton	High pH, water erosion, restricted permeability	High pH, water erosion
295A:		
Mokena	Wetness, root-restrictive layer, restricted permeability	Wetness, root-restrictive layer
330A:		
Peotone	Ponding, poor tilth	Ponding, frost heave, poor tilth
387B:		
Ockley	Crusting, water erosion, excessive permeability	Low pH, water erosion, excessive permeability
440A:		
Jasper	No major limitations	Low pH
440B:		
Jasper	Water erosion	Low pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
440C2:		
Jasper	Water erosion	Low pH, water erosion
448B:		
Mona	Root-restrictive layer, high pH, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
481A:		
Raub	Wetness	Wetness, low pH
490A:		
Odell	Wetness, high pH	Wetness, high pH
496A:		
Fincastle	Wetness, crusting	Wetness, low pH
496B2:		
Fincastle	Wetness, crusting, water erosion	Wetness, low pH, water erosion
530C2:		
Ozaukee	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
530D2:		
Ozaukee	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
530D3:		
Ozaukee	Root-restrictive layer, poor tilth, high pH, water erosion, restricted permeability	Root-restrictive layer, poor tilth, high pH, water erosion, low fertility
530E2:		
Ozaukee	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
530F:		
Ozaukee	---	Equipment limitation, root-restrictive layer, high pH, water erosion
530G:		
Ozaukee	---	---
549G:		
Marseilles	---	---
570B:		
Martinsville	Water erosion	Low pH, water erosion
570C2:		
Martinsville	Water erosion	Low pH, water erosion
570D2:		
Martinsville	Water erosion	Low pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
570F:		
Martinsville	---	Equipment limitation, low pH, water erosion
571A:		
Whitaker	Wetness	Wetness, low pH
618C2:		
Senachwine	High pH, crusting, water erosion	High pH, water erosion
618C3:		
Senachwine	Poor tilth, high pH, water erosion	Poor tilth, high pH, water erosion, low fertility
618D2:		
Senachwine	High pH, crusting, water erosion	High pH, water erosion
618E2:		
Senachwine	---	Equipment limitation, high pH, water erosion
618F:		
Senachwine	---	Equipment limitation, high pH, water erosion
623A:		
Kishwaukee	Excessive permeability	Low pH, excessive permeability
687B:		
Penfield	Water erosion	Low pH, water erosion
758A:		
Haskins	Wetness	Wetness, low pH
802B:		
Orthents, loamy	Crusting, water erosion	Water erosion
802F:		
Orthents, loamy	---	Equipment limitation, water erosion
871B:		
Lenzburg	Excess lime, crusting, water erosion	Water erosion, low fertility, excess lime
871G:		
Lenzburg	---	---
3107A:		
Sawmill	Flooding, ponding, poor tilth	Flooding, ponding, frost heave, poor tilth
3183A:		
Shaffton	Flooding, wetness	Flooding, wetness
3302A:		
Ambraw	Flooding, ponding	Flooding, ponding, frost heave

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
3473A:		
Rossburg	Flooding	Flooding
7304A:		
Landes	Excessive permeability	Excessive permeability
8304A:		
Landes	Flooding, excessive permeability	Flooding, excessive permeability
8473A:		
Rossburg	Flooding	Flooding
8674A:		
Dozaville	Flooding	Flooding

Table 7.--Land Capability and Yields per Acre of Crops and Pasture

(The yields given for crops are those that can be expected under an optimum level of management, and the yields given for grass-legume pasture are those that can be expected under an average level of management. All yields are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
17A:							
Keomah--------------	2w	145	46	59	75	4.63	6.8
23A:							
Blount--------------	2w	125	43	52	59	4.00	5.8
23B2:							
Blount--------------	2e	119	41	49	56	3.76	5.5
43A:							
Ipava---------------	1	172	56	69	90	5.31	7.8
56B2:							
Dana----------------	2e	154	48	59	85	5.37	7.8
59A:							
Lisbon--------------	1	173	55	68	90	5.10	7.5
67A:							
Harpster------------	2w	164	52	61	80	4.86	7.2
68A:							
Sable---------------	2w	173	57	67	89	5.20	7.7
69A:							
Milford-------------	2w	154	51	61	79	5.00	7.3
88B:							
Sparta--------------	4s	106	37	45	51	3.60	5.3
91A:							
Swygert-------------	2w	143	47	57	71	4.10	6.0
91B2:							
Swygert-------------	2e	133	44	53	66	3.80	5.5
91C2:							
Swygert-------------	3e	132	43	52	65	3.80	5.4
102A:							
La Hogue------------	1	146	47	64	72	4.80	7.0
125A:							
Selma---------------	2w	157	51	62	80	4.80	7.0
131B:							
Alvin---------------	2e	134	44	52	66	3.40	4.9
132A:							
Starks--------------	2w	147	46	57	76	4.60	6.8
134B:							
Camden--------------	2e	148	46	57	77	4.25	6.3

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
145B2:							
Saybrook------------	2e	154	48	59	82	5.37	7.9
146A:							
Elliott-------------	2w	151	50	61	78	4.50	6.7
146B2:							
Elliott-------------	2e	143	48	58	74	4.30	6.3
146C2:							
Elliott-------------	3e	142	47	57	73	4.20	6.3
147A:							
Clarence------------	3w	126	44	53	59	3.96	5.8
147B2:							
Clarence------------	3e	117	41	49	55	3.68	5.3
147C2:							
Clarence------------	3e	116	40	49	54	3.64	5.2
148A:							
Proctor-------------	1	166	52	63	89	5.80	8.5
148B:							
Proctor-------------	2e	162	50	62	87	5.64	8.3
148C2:							
Proctor-------------	3e	154	48	59	83	5.36	7.7
149A:							
Brenton-------------	1	176	54	67	95	5.09	7.5
150B:							
Onarga--------------	2e	133	43	54	68	3.70	5.4
150C2:							
Onarga--------------	3e	125	40	51	64	3.40	5.1
152A:							
Drummer-------------	2w	175	57	66	90	5.09	7.5
153A:							
Pella---------------	2w	165	54	63	82	4.80	7.0
154A:							
Flanagan------------	1	175	56	69	92	5.30	7.8
171B:							
Catlin--------------	2e	166	52	65	88	6.00	8.9
182A:							
Peotone-------------	3w	149	46	64	79	4.18	6.2
198A:							
Elburn--------------	1	178	55	67	85	5.20	7.7
199B:							
Plano---------------	2e	173	53	66	92	6.27	9.1

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
221B2:							
Parr----------------	2e	137	45	55	58	4.62	6.8
221C3:							
Parr----------------	4e	124	40	50	52	4.18	6.0
223B2:							
Varna---------------	2e	135	43	55	67	4.20	6.2
223C2:							
Varna---------------	3e	133	42	55	67	4.10	6.1
223D2:							
Varna---------------	4e	131	41	53	65	4.00	5.9
224G:							
Strawn--------------	7e	---	---	---	---	---	---
230A:							
Rowe----------------	3w	133	44	53	63	3.84	5.7
232A:							
Ashkum--------------	2w	154	51	59	77	4.60	6.8
233B:							
Birkbeck------------	2e	149	47	59	78	4.58	6.8
235A:							
Bryce---------------	2w	146	49	58	73	4.30	6.3
236A:							
Sabina--------------	2w	151	47	59	78	4.63	6.8
238A:							
Rantoul-------------	3w	130	45	51	58	3.73	5.5
241D3:							
Chatsworth----------	7e	---	---	---	---	---	3.0
242A:							
Kendall-------------	2w	155	48	60	80	4.75	7.0
291B:							
Xenia---------------	2e	145	45	57	74	4.03	5.9
293A:							
Andres--------------	1	166	53	64	87	4.90	7.2
294B:							
Symerton------------	2e	159	50	61	81	5.50	8.3
295A:							
Mokena--------------	2w	155	49	60	79	4.40	6.5
330A:							
Peotone-------------	2w	148	49	55	70	4.50	6.7
387B:							
Ockley--------------	2e	139	45	54	70	4.81	7.1

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
440A:							
Jasper--------------	1	158	51	64	85	5.20	7.7
440B:							
Jasper--------------	2e	156	50	63	84	5.10	7.6
440C2:							
Jasper--------------	3e	147	47	60	79	4.80	7.1
448B:							
Mona----------------	2e	145	46	56	74	3.80	5.6
481A:							
Raub----------------	1	165	52	66	92	5.09	7.5
490A:							
Odell---------------	1	158	51	61	81	4.63	6.8
496A:							
Fincastle-----------	2w	150	47	59	77	4.52	6.7
496B2:							
Fincastle-----------	2e	143	45	56	73	4.30	6.3
530C2:							
Ozaukee-------------	2e	127	39	51	68	3.20	4.7
530D2:							
Ozaukee-------------	3e	124	39	50	66	3.10	4.5
530D3:							
Ozaukee-------------	4e	115	36	46	61	2.90	4.1
530E2:							
Ozaukee-------------	4e	113	35	45	60	2.90	4.1
530F:							
Ozaukee-------------	6e	---	---	---	---	2.60	3.7
530G:							
Ozaukee-------------	7e	---	---	---	---	---	---
533:							
Urban land----------	8	---	---	---	---	---	---
536.							
Dumps							
549G:							
Marseilles----------	7e	---	---	---	---	---	---
570B:							
Martinsville--------	2e	139	44	56	67	4.03	5.9
570C2:							
Martinsville--------	3e	130	41	53	63	3.79	5.5
570D2:							
Martinsville--------	4e	122	38	50	59	3.54	5.1

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
570F:							
Martinsville--------	6e	---	---	---	---	3.13	4.5
571A:							
Whitaker------------	2w	147	46	55	65	4.52	6.7
618C2:							
Senachwine----------	3e	123	40	48	59	2.94	4.3
618C3:							
Senachwine----------	3e	114	37	45	54	2.72	3.9
618D2:							
Senachwine----------	4e	115	37	45	55	2.75	4.0
618E2:							
Senachwine----------	6e	---	---	---	---	2.40	3.4
618F:							
Senachwine----------	6e	---	---	---	---	2.31	3.4
623A:							
Kishwaukee----------	1	164	52	64	87	5.99	8.8
687B:							
Penfield------------	2e	156	50	63	84	5.15	7.5
758A:							
Haskins-------------	2w	144	47	58	71	4.41	6.5
802B:							
Orthents, loamy-----	2e	93	32	35	55	3.70	4.7
802F:							
Orthents, loamy-----	6e	---	---	---	---	3.00	3.8
864.							
Pits, quarry							
865.							
Pits, gravel							
871B:							
Lenzburg------------	2e	107	36	41	44	3.58	5.2
871G:							
Lenzburg------------	7e	---	---	---	---	---	---
3107A:							
Sawmill-------------	3w	153	49	---	---	4.68	6.9
3183A:							
Shaffton------------	3w	126	41	---	---	4.17	6.2
3302A:							
Ambraw--------------	3w	125	41	---	---	4.07	6.0
3473A:							
Rossburg------------	3w	144	47	---	---	4.68	6.9

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
7304A:							
Landes--------------	2s	121	41	50	55	3.05	4.5
8304A:							
Landes--------------	2w	121	41	50	55	3.05	4.5
8473A:							
Rossburg------------	2w	160	52	63	80	5.20	7.7
8674A:							
Dozaville-----------	2w	163	52	61	81	4.86	7.2

* Animal unit month: The amount of forage required to feed one mature cow, of approximately 1,000 pounds weight, with or without a calf, for 30 days.

Table 8.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
17A	Keomah silt loam, 0 to 2 percent slopes (where drained)
23A	Blount silt loam, 0 to 2 percent slopes (where drained)
23B2	Blount silt loam, 2 to 4 percent slopes, eroded
43A	Ipava silt loam, 0 to 2 percent slopes
56B2	Dana silt loam, 2 to 5 percent slopes, eroded
59A	Lisbon silt loam, 0 to 2 percent slopes
67A	Harpster silty clay loam, 0 to 2 percent slopes (where drained)
68A	Sable silty clay loam, 0 to 2 percent slopes (where drained)
69A	Milford silty clay loam, 0 to 2 percent slopes (where drained)
91A	Swygert silty clay loam, 0 to 2 percent slopes
91B2	Swygert silty clay loam, 2 to 4 percent slopes, eroded
91C2	Swygert silty clay loam, 4 to 6 percent slopes, eroded
102A	La Hogue loam, 0 to 2 percent slopes
125A	Selma loam, 0 to 2 percent slopes (where drained)
131B	Alvin fine sandy loam, 2 to 5 percent slopes
132A	Starks silt loam, 0 to 2 percent slopes (where drained)
134B	Camden silt loam, 2 to 5 percent slopes
145B2	Saybrook silt loam, 2 to 5 percent slopes, eroded
146A	Elliott silt loam, 0 to 2 percent slopes
146B2	Elliott silty clay loam, 2 to 4 percent slopes, eroded
146C2	Elliott silty clay loam, 4 to 6 percent slopes, eroded
148A	Proctor silt loam, 0 to 2 percent slopes
148B	Proctor silt loam, 2 to 5 percent slopes
149A	Brenton silt loam, 0 to 2 percent slopes
150B	Onarga fine sandy loam, 2 to 5 percent slopes
150C2	Onarga fine sandy loam, 5 to 10 percent slopes, eroded
152A	Drummer silty clay loam, 0 to 2 percent slopes (where drained)
153A	Pella silty clay loam, 0 to 2 percent slopes (where drained)
154A	Flanagan silt loam, 0 to 2 percent slopes
171B	Catlin silt loam, 2 to 5 percent slopes
182A	Peotone mucky silty clay loam, marly substratum, 0 to 2 percent slopes (where drained)
198A	Elburn silt loam, 0 to 2 percent slopes
199B	Plano silt loam, 2 to 5 percent slopes
221B2	Parr silt loam, 2 to 5 percent slopes, eroded
223B2	Varna silt loam, 2 to 4 percent slopes, eroded
223C2	Varna silt loam, 4 to 6 percent slopes, eroded
232A	Ashkum silty clay loam, 0 to 2 percent slopes (where drained)
233B	Birkbeck silt loam, 2 to 5 percent slopes
235A	Bryce silty clay, 0 to 2 percent slopes (where drained)
236A	Sabina silt loam, 0 to 2 percent slopes (where drained)
242A	Kendall silt loam, 0 to 2 percent slopes (where drained)
291B	Xenia silt loam, 2 to 5 percent slopes
293A	Andres silt loam, 0 to 2 percent slopes
294B	Symerton silt loam, 2 to 5 percent slopes
295A	Mokena silt loam, 0 to 2 percent slopes
330A	Peotone silty clay loam, 0 to 2 percent slopes (where drained)
387B	Ockley silt loam, 2 to 5 percent slopes
440A	Jasper loam, 0 to 2 percent slopes
440B	Jasper loam, 2 to 5 percent slopes
448B	Mona silt loam, 2 to 5 percent slopes
481A	Raub silt loam, 0 to 2 percent slopes
490A	Odell silt loam, 0 to 2 percent slopes
496A	Fincastle silt loam, 0 to 2 percent slopes (where drained)
496B2	Fincastle silt loam, 2 to 5 percent slopes, eroded
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded
570B	Martinsville silt loam, 2 to 5 percent slopes
571A	Whitaker loam, 0 to 2 percent slopes (where drained)
623A	Kishwaukee silt loam, 0 to 2 percent slopes

Table 8.--Prime Farmland--Continued

Map symbol	Soil name
687B	Penfield loam, 2 to 5 percent slopes
758A	Haskins loam, 0 to 2 percent slopes (where drained)
871B	Lenzburg loam, 1 to 7 percent slopes
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3183A	Shaffton loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3302A	Ambraw loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3473A	Rossburg silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
7304A	Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded
8304A	Landes fine sandy loam, 0 to 2 percent slopes, occasionally flooded
8473A	Rossburg loam, 0 to 2 percent slopes, occasionally flooded
8674A	Dozaville silt loam, 0 to 2 percent slopes, occasionally flooded

Table 9.--Hydric Soils

(Only those map units that have hydric components are listed. See text for a description of hydric qualities and definitions of the hydric criteria codes)

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
17A:				
Keomah silt loam, 0 to 2 percent slopes	Keomah	Not hydric	ground moraine	---
	Sable	Hydric	swale	2B3
23A:				
Blount silt loam, 0 to 2 percent slopes	Blount	Not hydric	ground moraine, end moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
23B2:				
Blount silt loam, 2 to 4 percent slopes, eroded	Blount	Not hydric	ground moraine, end moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
43A:				
Ipava silt loam, 0 to 2 percent slopes	Ipava	Not hydric	ground moraine, till plain	---
	Sable	Hydric	swale	2B3
56B2:				
Dana silt loam, 2 to 5 percent slopes, eroded	Dana	Not hydric	ground moraine	---
	Drummer	Hydric	swale	2B3
	Sable	Hydric	swale	2B3
59A:				
Lisbon silt loam, 0 to 2 percent slopes	Lisbon	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	outwash plain, ground moraine	2B3
67A:				
Harpster silty clay loam, 0 to 2 percent slopes	Harpster	Hydric	ground moraine, lake plain, outwash plain, stream terrace, depression	2B3
68A:				
Sable silty clay loam, 0 to 2 percent slopes	Sable	Hydric	ground moraine	2B3
69A:				
Milford silty clay loam, 0 to 2 percent slopes	Milford	Hydric	lake plain	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
91A:				
Swygert silty clay loam, 0 to 2 percent slopes	Swygert	Not hydric	ground moraine, end moraine	---
	Bryce	Hydric	ground moraine, glacial lake (relict)	2B3
91B2:				
Swygert silty clay loam, 2 to 4 percent slopes, eroded	Swygert	Not hydric	ground moraine, end moraine	---
	Bryce	Hydric	ground moraine, glacial lake (relict)	2B3
91C2:				
Swygert silty clay loam, 4 to 6 percent slopes, eroded	Swygert	Not hydric	ground moraine, end moraine	---
	Bryce	Hydric	ground moraine, glacial lake (relict)	2B3
102A:				
La Hogue loam, 0 to 2 percent slopes	La Hogue	Not hydric	outwash plain, stream terrace	---
	Selma	Hydric	outwash plain, stream terrace	2B3
125A:				
Selma loam, 0 to 2 percent slopes	Selma	Hydric	outwash plain, stream terrace	2B3
131B:				
Alvin fine sandy loam, 2 to 5 percent slopes	Alvin	Not hydric	outwash plain, stream terrace	---
	Selma	Hydric	outwash plain, stream terrace	2B3
132A:				
Starks silt loam, 0 to 2 percent slopes	Starks	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	outwash plain, stream terrace	2B3
134B:				
Camden silt loam, 2 to 5 percent slopes	Camden	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	outwash plain, stream terrace	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
145B2:				
Saybrook silt loam, 2 to 5 percent slopes, eroded	Saybrook	Not hydric	ground moraine	---
	Drummer	Hydric	outwash plain, stream terrace, swale	2B3
146A:				
Elliott silt loam, 0 to 2 percent slopes	Elliott	Not hydric	ground moraine, end moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
146B2:				
Elliott silty clay loam, 2 to 4 percent slopes, eroded	Elliott	Not hydric	ground moraine, end moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
146C2:				
Elliott silty clay loam, 4 to 6 percent slopes, eroded	Elliott	Not hydric	end moraine, ground moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
147A:				
Clarence silty clay loam, 0 to 2 percent slopes	Clarence	Not hydric	ground moraine	---
	Rowe	Hydric	ground moraine, lake plain	2B3
147B2:				
Clarence silty clay loam, 2 to 4 percent slopes, eroded	Clarence	Not hydric	ground moraine	---
	Rowe	Hydric	ground moraine, lake plain	2B3
147C2:				
Clarence silty clay loam, 4 to 6 percent slopes, eroded	Clarence	Not hydric	ground moraine	---
	Rowe	Hydric	ground moraine, lake plain	2B3
148A:				
Proctor silt loam, 0 to 2 percent slopes	Proctor	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	outwash plain, stream terrace	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
148B:				
Proctor silt loam, 2 to 5 percent slopes	Proctor	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	outwash plain, stream terrace	2B3
148C2:				
Proctor silt loam, 5 to 10 percent slopes, eroded	Proctor	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	outwash plain, stream terrace	2B3
149A:				
Brenton silt loam, 0 to 2 percent slopes	Brenton	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	swale	2B3
152A:				
Drummer silty clay loam, 0 to 2 percent slopes	Drummer	Hydric	outwash plain, stream terrace	2B3
153A:				
Pella silty clay loam, 0 to 2 percent slopes	Pella	Hydric	outwash plain, ground moraine, lake plain	2B3
	Harpster	Hydric	ground moraine, lake plain, outwash plain, stream terrace, depression	2B3
154A:				
Flanagan silt loam, 0 to 2 percent slopes	Flanagan	Not hydric	ground moraine	---
	Drummer	Hydric	ground moraine, outwash plain	2B3
171B:				
Catlin silt loam, 2 to 5 percent slopes	Catlin	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	ground moraine, outwash plain	2B3
182A:				
Peotone mucky silty clay loam, marly substratum, 0 to 2 percent slopes	Peotone	Hydric	depression	3,2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
198A:				
Elburn silt loam, 0 to 2 percent slopes	Elburn	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	outwash plain, stream terrace	2B3
	Sable	Hydric	swale	2B3
199B:				
Plano silt loam, 2 to 5 percent slopes	Plano	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	outwash plain, ground moraine	2B3
	Sable	Hydric	ground moraine	2B3
221B2:				
Parr silt loam, 2 to 5 percent slopes, eroded	Parr	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	ground moraine, outwash plain	2B3
221C3:				
Parr clay loam, 5 to 10 percent slopes, severely eroded	Parr	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	ground moraine, outwash plain	2B3
223B2:				
Varna silt loam, 2 to 4 percent slopes, eroded	Varna	Not hydric	ground moraine, end moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
223C2:				
Varna silt loam, 4 to 6 percent slopes, eroded	Varna	Not hydric	ground moraine, end moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
223D2:				
Varna silt loam, 6 to 12 percent slopes, eroded	Varna	Not hydric	end moraine, ground moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
230A:				
Rowe silty clay loam, 0 to 2 percent slopes	Rowe	Hydric	ground moraine, lake plain	2B3
	Rantoul	Hydric	ground moraine, lake plain	2B3,3
232A:				
Ashkum silty clay loam, 0 to 2 percent slopes	Ashkum	Hydric	ground moraine, end moraine	2B3
233B:				
Birkbeck silt loam, 2 to 5 percent slopes	Birkbeck	Not hydric	ground moraine, end moraine	---
	Sable	Hydric	swale	2B3
235A:				
Bryce silty clay, 0 to 2 percent slopes	Bryce	Hydric	ground moraine, glacial lake (relict)	2B3
	Rantoul	Hydric	ground moraine, lake plain	2B3,3
236A:				
Sabina silt loam, 0 to 2 percent slopes	Sabina	Not hydric	ground moraine, till plain	---
	Drummer	Hydric	ground moraine, outwash plain	2B3
238A:				
Rantoul silty clay, 0 to 2 percent slopes	Rantoul	Hydric	ground moraine, lake plain	2B3,3
241D3:				
Chatsworth silty clay, 6 to 12 percent slopes, severely eroded	Chatsworth	Not hydric	ground moraine, end moraine	---
	Bryce	Hydric	ground moraine, glacial lake (relict)	2B3
242A:				
Kendall silt loam, 0 to 2 percent slopes	Kendall	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	swale	2B3
	Sable	Hydric	ground moraine	2B3
291B:				
Xenia silt loam, 2 to 5 percent slopes	Xenia	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	ground moraine, outwash plain	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
293A:				
Andres silt loam, 0 to 2 percent slopes	Andres	Not hydric	ground moraine, lake plain	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
294B:				
Symerton silt loam, 2 to 5 percent slopes	Symerton	Not hydric	ground moraine, lake plain	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
295A:				
Mokena silt loam, 0 to 2 percent slopes	Mokena	Not hydric	ground moraine, lake plain	---
	Bryce	Hydric	ground moraine, glacial lake (relict)	2B3
330A:				
Peotone silty clay loam, 0 to 2 percent slopes	Peotone	Hydric	ground moraine	2B3
387B:				
Ockley silt loam, 2 to 5 percent slopes	Ockley	Not hydric	stream terrace, outwash plain	---
	Selma	Hydric	outwash plain, stream terrace	2B3
440A:				
Jasper loam, 0 to 2 percent slopes	Jasper	Not hydric	outwash plain	---
	Selma	Hydric	outwash plain, stream terrace	2B3
440B:				
Jasper loam, 2 to 5 percent slopes	Jasper	Not hydric	outwash plain	---
	Selma	Hydric	outwash plain, stream terrace	2B3
440C2:				
Jasper loam, 5 to 10 percent slopes, eroded	Jasper	Not hydric	outwash plain	---
	Selma	Hydric	outwash plain, stream terrace	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
448B:				
Mona silt loam, 2 to 5 percent slopes	Mona	Not hydric	ground moraine, glacial lake (relict)	---
	Bryce	Hydric	ground moraine, glacial lake (relict)	2B3
481A:				
Raub silt loam, 0 to 2 percent slopes	Raub	Not hydric	ground moraine	---
	Drummer	Hydric	swale	2B3
490A:				
Odell silt loam, 0 to 2 percent slopes	Odell	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	ground moraine, outwash plain	2B3
496A:				
Fincastle silt loam, 0 to 2 percent slopes	Fincastle	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	ground moraine, outwash plain	2B3
496B2:				
Fincastle silt loam, 2 to 5 percent slopes, eroded	Fincastle	Not hydric	end moraine, ground moraine	---
	Drummer	Hydric	ground moraine, outwash plain	2B3
530C2:				
Ozaukee silt loam, 4 to 6 percent slopes, eroded	Ozaukee	Not hydric	end moraine, ground moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
530D2:				
Ozaukee silt loam, 6 to 12 percent slopes, eroded	Ozaukee	Not hydric	end moraine, ground moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
530D3:				
Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded	Ozaukee	Not hydric	end moraine, ground moraine	---
	Ashkum	Hydric	ground moraine, end moraine	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
570B:				
Martinsville silt loam, 2 to 5 percent slopes	Martinsville	Not hydric	outwash terrace, outwash plain	---
	Drummer	Hydric	swale	2B3
570C2:				
Martinsville loam, 5 to 10 percent slopes, eroded	Martinsville	Not hydric	outwash terrace, outwash plain	---
	Drummer	Hydric	swale	2B3
	Sawmill	Hydric	flood plain	2B3
570D2:				
Martinsville loam, 10 to 18 percent slopes, eroded	Martinsville	Not hydric	stream terrace, outwash plain	---
	Drummer	Hydric	swale	2B3
	Sawmill	Hydric	flood plain	2B3
571A:				
Whitaker loam, 0 to 2 percent slopes	Whitaker	Not hydric	outwash plain, stream terrace	---
	Selma	Hydric	outwash plain, stream terrace	2B3
618C2:				
Senachwine silt loam, 5 to 10 percent slopes, eroded	Senachwine	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	swale	2B3
618C3:				
Senachwine clay loam, 5 to 10 percent slopes, severely eroded	Senachwine	Not hydric	ground moraine, end moraine	---
	Drummer	Hydric	swale	2B3
618D2:				
Senachwine silt loam, 10 to 18 percent slopes, eroded	Senachwine	Not hydric	end moraine, ground moraine	---
	Drummer	Hydric	swale	2B3
	Sawmill	Hydric	flood plain	2B3
618E2:				
Senachwine silt loam, 18 to 25 percent slopes, eroded	Senachwine	Not hydric	ground moraine, end moraine	---
	Sawmill	Hydric	flood plain	2B3
618F:				
Senachwine silt loam, 18 to 35 percent slopes	Senachwine	Not hydric	end moraine, ground moraine	---
	Sawmill	Hydric	flood plain	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
623A:				
Kishwaukee silt loam, 0 to 2 percent slopes	Kishwaukee	Not hydric	outwash plain, stream terrace	---
	Selma	Hydric	outwash plain, stream terrace	2B3
687B:				
Penfield loam, 2 to 5 percent slopes	Penfield	Not hydric	outwash plain, ground moraine	---
	Drummer	Hydric	outwash plain, stream terrace	2B3
758A:				
Haskins loam, 0 to 2 percent slopes	Haskins	Not hydric	ground moraine, outwash plain	---
	Ashkum	Hydric	ground moraine, end moraine	2B3
	Drummer	Hydric	ground moraine, outwash plain	2B3
802B:				
Orthents, loamy, undulating	Orthents, loamy	Not hydric	outwash plain, ground moraine	---
	Drummer	Hydric	outwash plain, stream terrace, ground moraine	2B3
865:				
Pits, gravel	Pits, gravel	---	---	---
	Drummer	Hydric	outwash plain, stream terrace	2B3
3107A:				
Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Sawmill	Hydric	flood plain	2B3
3183A:				
Shaffton loam, 0 to 2 percent slopes, frequently flooded	Shaffton	Not hydric	flood plain	---
	Sawmill	Hydric	flood plain	2B3
3302A:				
Ambraw loam, 0 to 2 percent slopes, frequently flooded	Ambraw	Hydric	flood plain	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria
3473A:				
Rossburg silt loam, 0 to 2 percent slopes, frequently flooded	Rossburg	Not hydric	flood plain	---
	Sawmill	Hydric	flood plain	2B3
8473A:				
Rossburg loam, 0 to 2 percent slopes, occasionally flooded	Rossburg	Not hydric	flood plain	---
	Sawmill	Hydric	flood plain	2B3

Table 10.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
17A:					
Keomah	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
23A:					
Blount	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
23B2:					
Blount	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
43A: Ipava	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
56B2: Dana	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
59A: Lisbon	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
67A: Harpster	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
68A: Sable	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
69A: Milford	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
88B: Sparta	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
91A:					
Swygert	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
91B2:					
Swygert	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
91C2:					
Swygert	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
102A: La Hogue	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
125A: Selma	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
131B: Alvin	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak	Carolina poplar, eastern white pine
132A: Starks	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
134B:					
Camden	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
145B2:					
Saybrook	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
146A:					
Elliott	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
146B2:					
Elliott	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
146C2:					
Elliott	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
147A:					
Clarence	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
147B2:					
Clarence	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
147C2:					
Clarence	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
148A:					
Proctor	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
148B:					
Proctor	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
148C2:					
Proctor	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
149A:					
Brenton	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
150B:					
Onarga	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak	Carolina poplar, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
150C2:					
Onarga	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak	Carolina poplar, eastern white pine
152A:					
Drummer	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
153A:					
Pella	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
154A:					
Flanagan	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, eastern redcedar, green hawthorn, nannyberry, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
171B:					
Catlin	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
182A:					
Peotone	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
198A:					
Elburn	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
199B:					
Plano	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
221B2:					
Parr	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
221C3:					
Parr	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
223B2:					
Varna	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
223C2:					
Varna	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
223D2:					
Varna	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
224G:					
Strawn	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
230A:					
Rowe	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
232A:					
Ashkum	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
233B:					
Birkbeck	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
235A: Bryce	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
236A: Sabina	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
238A: Rantoul	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
241D3: Chatsworth	Coralberry, mapleleaf viburnum, redosier dogwood, roughleaf dogwood	American cranberrybush, Ohio buckeye, bitternut hickory, bur oak, chinkapin oak, cockspur hawthorn, common chokecherry, eastern redcedar	Austrian pine, common hackberry	Carolina poplar	---
242A: Kendall	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
291B: Xenia	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
293A: Andres	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
294B:					
Symerton	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
295A:					
Mokena	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
330A:					
Peotone	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
387B:					
Ockley	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
440A:					
Jasper	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
440B:					
Jasper	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
440C2:					
Jasper	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
448B:					
Mona	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
481A:					
Raub	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
490A:					
Odell	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
496A:					
Fincastle	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
496B2:					
Fincastle	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
530C2:					
Ozaukee	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
530D2:					
Ozaukee-----------------	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-------	Carolina poplar
530D3:					
Ozaukee-----------------	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-------	Carolina poplar
530E2:					
Ozaukee-----------------	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-------	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
530F:					
Ozaukee	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
530G:					
Ozaukee	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce	Carolina poplar
533. Urban land					
536. Dumps					
549G:					
Marseilles	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine	Carolina poplar	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
570B:					
Martinsville	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
570C2:					
Martinsville	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
570D2:					
Martinsville	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
570F:					
Martinsville	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
571A: Whitaker	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
618C2: Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
618C3: Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
618D2: Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
618E2:					
Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
618F:					
Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
623A:					
Kishwaukee	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
687B:					
Penfield	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
758A:					
Haskins	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
802B:					
Orthents, loamy	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
802F:					
Orthents, loamy	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
864.					
Pits, quarry					
865.					
Pits, gravel					

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
871B:					
Lenzburg	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak	---	---
871G:					
Lenzburg	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak	---	---
3107A:					
Sawmill	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3183A:					
Shaffton	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3302A: Ambraw	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3473A: Rossburg	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7304A: Landes	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
8304A: Landes	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8473A: Rossburg	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8674A: Dozaville	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 11.--Forestland Harvest Equipment Considerations

(Only the soils that are commonly used as forestland are listed. See text for descriptions of the considerations listed in this table)

Map symbol and soil name	Forestland harvest equipment considerations
17A:	
Keomah	Wetness Susceptible to rutting and wheel slippage
23A:	
Blount	Wetness Susceptible to rutting and wheel slippage
23B2:	
Blount	Wetness Susceptible to rutting and wheel slippage
88B:	
Sparta	Poor traction (loose sandy material)
131B:	
Alvin	Susceptible to rutting and wheel slippage
132A:	
Starks	Wetness Susceptible to rutting and wheel slippage
134B:	
Camden	Susceptible to rutting and wheel slippage
224G:	
Strawn	Slope Susceptible to rutting and wheel slippage
233B:	
Birkbeck	Wetness Susceptible to rutting and wheel slippage
236A:	
Sabina	Wetness Susceptible to rutting and wheel slippage
242A:	
Kendall	Wetness Susceptible to rutting and wheel slippage
291B:	
Xenia	Wetness Susceptible to rutting and wheel slippage
387B:	
Ockley	Susceptible to rutting and wheel slippage
496A:	
Fincastle	Wetness Susceptible to rutting and wheel slippage
496B2:	
Fincastle	Wetness Susceptible to rutting and wheel slippage

Table 11.--Forestland Harvest Equipment Considerations--Continued

Map symbol and soil name	Forestland harvest equipment considerations
530C2:	
Ozaukee	Wetness Susceptible to rutting and wheel slippage
530D2:	
Ozaukee	Wetness Susceptible to rutting and wheel slippage
530D3:	
Ozaukee	Wetness Susceptible to rutting and wheel slippage
530E2:	
Ozaukee	Slope Wetness Susceptible to rutting and wheel slippage
530F:	
Ozaukee	Slope Wetness Susceptible to rutting and wheel slippage
530G:	
Ozaukee	Slope Wetness Susceptible to rutting and wheel slippage
549G:	
Marseilles	Slope Susceptible to rutting and wheel slippage
570B:	
Martinsville	Susceptible to rutting and wheel slippage
570C2:	
Martinsville	Susceptible to rutting and wheel slippage
570D2:	
Martinsville	Slope Susceptible to rutting and wheel slippage
570F:	
Martinsville	Slope Susceptible to rutting and wheel slippage
571A:	
Whitaker	Wetness Susceptible to rutting and wheel slippage
618C2:	
Senachwine	Susceptible to rutting and wheel slippage
618C3:	
Senachwine	Susceptible to rutting and wheel slippage
618D2:	
Senachwine	Slope Susceptible to rutting and wheel slippage
618E2:	
Senachwine	Slope Susceptible to rutting and wheel slippage

Table 11.--Forestland Harvest Equipment Considerations--Continued

Map symbol and soil name	Forestland harvest equipment considerations
618F:	
Senachwine	Slope Susceptible to rutting and wheel slippage
758A:	
Haskins	Wetness Susceptible to rutting and wheel slippage
871B:	
Lenzburg	Susceptible to rutting and wheel slippage
871G:	
Lenzburg	Slope Susceptible to rutting and wheel slippage
3107A:	
Sawmill	Flooding Wetness Susceptible to rutting and wheel slippage
3183A:	
Shaffton	Flooding Wetness Susceptible to rutting and wheel slippage
3302A:	
Ambraw	Flooding Wetness Susceptible to rutting and wheel slippage
3473A:	
Rossburg	Flooding Susceptible to rutting and wheel slippage
7304A:	
Landes	No major considerations
8304A:	
Landes	No major considerations
8473A:	
Rossburg	Susceptible to rutting and wheel slippage

Table 12.--Forestland Haul Road and Log Landing Considerations

(Only the soils that are commonly used as forestland are listed. See text for descriptions of the considerations listed in this table)

Map symbol and soil name	Haul road considerations	Log landing considerations
17A:		
Keomah	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
23A:		
Blount	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
23B2:		
Blount	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
88B:		
Sparta	No major considerations	No major considerations
131B:		
Alvin	Low bearing strength	Susceptible to rutting and wheel slippage
132A:		
Starks	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
134B:		
Camden	Low bearing strength	Susceptible to rutting and wheel slippage
224G:		
Strawn	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
233B:		
Birkbeck	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
236A:		
Sabina	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
242A:		
Kendall	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
291B:		
Xenia	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
387B:		
Ockley	Low bearing strength	Susceptible to rutting and wheel slippage
496A:		
Fincastle	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
496B2:		
Fincastle	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
530C2:		
Ozaukee	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage

Table 12.--Forestland Haul Road and Log Landing Considerations--Continued

Map symbol and soil name	Haul road considerations	Log landing considerations
530D2:		
Ozaukee	Slope Wetness Low bearing strength	Slope Wetness Susceptible to rutting and wheel slippage
530D3:		
Ozaukee	Slope Wetness Low bearing strength	Slope Wetness Susceptible to rutting and wheel slippage
530E2:		
Ozaukee	Slope Wetness Low bearing strength	Slope Wetness Susceptible to rutting and wheel slippage
530F:		
Ozaukee	Slope Wetness Low bearing strength	Slope Wetness Susceptible to rutting and wheel slippage
530G:		
Ozaukee	Slope Wetness Low bearing strength	Slope Wetness Susceptible to rutting and wheel slippage
549G:		
Marseilles	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
570B:		
Martinsville	Low bearing strength	Susceptible to rutting and wheel slippage
570C2:		
Martinsville	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
570D2:		
Martinsville	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
570F:		
Martinsville	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
571A:		
Whitaker	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
618C2:		
Senachwine	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
618C3:		
Senachwine	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
618D2:		
Senachwine	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
618E2:		
Senachwine	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage

Table 12.--Forestland Haul Road and Log Landing Considerations--Continued

Map symbol and soil name	Haul road considerations	Log landing considerations
618F:		
Senachwine	Slope	Slope
	Low bearing strength	Susceptible to rutting and wheel slippage
758A:		
Haskins	Wetness	Wetness
	Low bearing strength	Susceptible to rutting and wheel slippage
871B:		
Lenzburg	Low bearing strength	Susceptible to rutting and wheel slippage
871G:		
Lenzburg	Slope	Slope
	Low bearing strength	Susceptible to rutting and wheel slippage
3107A:		
Sawmill	Flooding	Flooding
	Wetness	Wetness
	Low bearing strength	Susceptible to rutting and wheel slippage
3183A:		
Shaffton	Flooding	Flooding
	Wetness	Wetness
	Low bearing strength	Susceptible to rutting and wheel slippage
3302A:		
Ambraw	Flooding	Flooding
	Wetness	Wetness
	Low bearing strength	Susceptible to rutting and wheel slippage
3473A:		
Rossburg	Flooding	Flooding
	Low bearing strength	Susceptible to rutting and wheel slippage
7304A:		
Landes	No major considerations	No major considerations
8304A:		
Landes	No major considerations	Flooding
8473A:		
Rossburg	Low bearing strength	Flooding
		Susceptible to rutting and wheel slippage

Table 13.--Forestland Site Preparation and Planting Considerations

(Only the soils that are commonly used as forestland are listed. See text for descriptions of the considerations listed in this table)

Map symbol and soil name	Forestland site preparation and planting considerations
17A:	
Keomah	Wetness
23A:	
Blount	Wetness Potential poor tilth and compaction
23B2:	
Blount	Wetness Potential poor tilth and compaction
88B:	
Sparta	No major considerations
131B:	
Alvin	No major considerations
132A:	
Starks	Wetness Potential poor tilth and compaction
134B:	
Camden	Potential poor tilth and compaction
224G:	
Strawn	Slope Water erosion Potential poor tilth and compaction
233B:	
Birkbeck	Wetness Potential poor tilth and compaction
236A:	
Sabina	Wetness Potential poor tilth and compaction
242A:	
Kendall	Wetness Potential poor tilth and compaction
291B:	
Xenia	Wetness Potential poor tilth and compaction
387B:	
Ockley	No major considerations
496A:	
Fincastle	Wetness Potential poor tilth and compaction
496B2:	
Fincastle	Wetness Potential poor tilth and compaction
530C2:	
Ozaukee	Wetness Potential poor tilth and compaction

Table 13.--Forestland Site Preparation and Planting Considerations--Continued

Map symbol and soil name	Forestland site preparation and planting considerations
530D2:	
Ozaukee	Wetness Water erosion Potential poor tilth and compaction
530D3:	
Ozaukee	Wetness Water erosion Potential poor tilth and compaction
530E2:	
Ozaukee	Slope Wetness Water erosion Potential poor tilth and compaction
530F:	
Ozaukee	Slope Wetness Water erosion Potential poor tilth and compaction
530G:	
Ozaukee	Slope Wetness Water erosion Potential poor tilth and compaction
549G:	
Marseilles	Slope Water erosion Potential poor tilth and compaction
570B:	
Martinsville	No major considerations
570C2:	
Martinsville	Water erosion
570D2:	
Martinsville	Slope Water erosion
570F:	
Martinsville	Slope Water erosion
571A:	
Whitaker	Wetness Potential poor tilth and compaction
618C2:	
Senachwine	Water erosion Potential poor tilth and compaction
618C3:	
Senachwine	Water erosion Potential poor tilth and compaction
618D2:	
Senachwine	Slope Water erosion Potential poor tilth and compaction

Table 13.--Forestland Site Preparation and Planting Considerations--Continued

Map symbol and soil name	Forestland site preparation and planting considerations
618E2:	
Senachwine	Slope Water erosion Potential poor tilth and compaction
618F:	
Senachwine	Slope Water erosion
758A:	
Haskins	Wetness Potential poor tilth and compaction
871B:	
Lenzburg	Potential poor tilth and compaction
871G:	
Lenzburg	Slope Water erosion Potential poor tilth and compaction
3107A:	
Sawmill	Flooding Wetness Potential poor tilth and compaction
3183A:	
Shaffton	Flooding Wetness
3302A:	
Ambraw	Flooding Wetness
3473A:	
Rossburg	Flooding
7304A:	
Landes	No major considerations
8304A:	
Landes	No major considerations
8473A:	
Rossburg	No major considerations

Table 14.--Forestland Productivity

(Only the soils commonly used for production of commercial trees are listed)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre	
17A:				
Keomah----------	Northern red oak-------	70	57	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	White oak-------------	65	43	
23A:				
Blount----------	Northern red oak-------	57	43	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	White ash-------------	57	43	
	White oak-------------	57	43	
	Sugar maple-----------	54	29	
23B2:				
Blount----------	Northern red oak-------	57	43	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	White oak-------------	57	43	
	Sugar maple-----------	54	29	
	White ash-------------	57	43	
88B:				
Sparta----------	Eastern white pine-----	---	---	Common hackberry, eastern redcedar, eastern white pine, red maple.
	Jack pine-------------	---	---	
	Northern red oak-------	70	57	
	White oak-------------	---	---	
131B:				
Alvin-----------	Black walnut-----------	---	---	Black walnut, bur oak, eastern white pine, pecan, pin oak.
	Northern red oak-------	80	57	
	White oak-------------	80	57	
132A:				
Starks----------	Black walnut-----------	---	---	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak-------	80	57	
	White oak-------------	80	57	
134B:				
Camden----------	Green ash-------------	76	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, white oak.
	Northern red oak-------	85	72	
	Shagbark hickory-------	---	---	
	Sugar maple-----------	---	---	
	White oak-------------	85	72	
224G:				
Strawn----------	Black walnut-----------	---	---	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-------	80	57	
	Tuliptree-------------	90	86	
	White oak-------------	80	57	
233B:				
Birkbeck--------	White oak-------------	86	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-------	---	---	

Table 14.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre	
236A:				
Sabina	White oak	80	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Black walnut	---	---	
	Northern red oak	80	57	
242A:				
Kendall	White oak	80	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Black walnut	---	---	
	Northern red oak	80	57	
	Tuliptree	90	86	
291B:				
Xenia	White oak	90	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Sweetgum	76	72	
	Tuliptree	98	100	
387B:				
Ockley	White oak	90	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	90	72	
	Sweetgum	76	72	
	Tuliptree	98	100	
496A:				
Fincastle	White oak	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak	75	57	
	Pin oak	85	72	
	Tuliptree	85	86	
496B2:				
Fincastle	Northern red oak	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Pin oak	85	72	
	Sweetgum	80	86	
	Tuliptree	85	86	
	White oak	75	57	
530C2:				
Ozaukee	Northern red oak	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	American basswood	---	---	
	Shagbark hickory	---	---	
	Sugar maple	---	---	
	White ash	---	---	
530D2:				
Ozaukee	Northern red oak	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	American basswood	---	---	
	Shagbark hickory	---	---	
	Sugar maple	---	---	
	White ash	---	---	
530D3:				
Ozaukee	American basswood	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Northern red oak	66	57	
	Shagbark hickory	---	---	
	Sugar maple	---	---	
	White ash	---	---	

Table 14.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre	
530E2:				
Ozaukee	Northern red oak	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	American basswood	---	---	
	Shagbark hickory	---	---	
	Sugar maple	---	---	
	White ash	---	---	
530F:				
Ozaukee	Northern red oak	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	American basswood	---	---	
	Shagbark hickory	---	---	
	Sugar maple	---	---	
	White ash	---	---	
530G:				
Ozaukee	Black walnut	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Bur oak	---	---	
	Northern red oak	80	57	
	Shagbark hickory	---	---	
	Tuliptree	90	86	
	White oak	80	57	
549G:				
Marseilles	Black oak	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
	Northern red oak	66	43	
	White ash	---	---	
	White oak	66	43	
570B:				
Martinsville	White oak	80	57	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	
570C2:				
Martinsville	White oak	80	57	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	
570D2:				
Martinsville	White oak	80	57	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	
570F:				
Martinsville	Sweetgum	76	72	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Tuliptree	98	100	
	White oak	80	57	
571A:				
Whitaker	Northern red oak	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Pin oak	85	72	
	Sweetgum	80	86	
	Tuliptree	85	86	
	White oak	70	57	
618C2:				
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	

Table 14.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre	
618C3:				
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	
618D2:				
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	
618E2:				
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	
618F:				
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Sweetgum	76	72	
	Tuliptree	98	100	
758A:				
Haskins	Northern red oak	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Pin oak	82	57	
	Sweetgum	80	86	
	Tuliptree	82	72	
	White oak	68	57	
871B:				
Lenzburg	Black walnut	73	---	Bur oak, chinkapin oak, eastern redcedar.
	Sweetgum	76	72	
	Eastern cottonwood	---	---	
871G:				
Lenzburg	Black walnut	73	---	Bur oak, chinkapin oak, eastern redcedar.
	Eastern cottonwood	---	---	
	Sweetgum	76	72	
3107A:				
Sawmill	Pin oak	90	72	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	American sycamore	---	---	
	Eastern cottonwood	---	---	
	Sweetgum	---	---	
3183A:				
Shaffton	Black cherry	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Black walnut	---	---	
	Northern red oak	86	72	
	Sugar maple	---	---	
	Tuliptree	96	100	
	White ash	---	---	
	White oak	---	---	
3302A:				
Ambraw	Eastern cottonwood	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	90	72	

Table 14.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/acre	
3473A:				
Rossburg	White oak	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Black cherry	---	---	
	Black walnut	---	---	
	Northern red oak	86	72	
	Sugar maple	85	57	
	Tuliptree	96	100	
	White ash	---	---	
7304A:				
Landes	American sycamore	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Eastern cottonwood	105	143	
	Green ash	---	---	
	Sweetgum	---	---	
	Tuliptree	95	100	
8304A:				
Landes	American sycamore	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Eastern cottonwood	105	143	
	Green ash	---	---	
	Sweetgum	---	---	
	Tuliptree	95	100	
8473A:				
Rossburg	Black cherry	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Black walnut	---	---	
	Northern red oak	---	---	
	Sugar maple	---	---	
	Tuliptree	---	---	
	White ash	---	---	
	White oak	90	72	

Table 15a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17A:						
Keomah	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
	Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
23A:						
Blount	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
23B2:						
Blount	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
					Slope	0.12
43A:						
Ipava	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
56B2:						
Dana	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slope	0.50
					Depth to saturated zone	0.07
59A:						
Lisbon	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
67A:						
Harpster	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
68A:						
Sable	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
69A:						
Milford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
88B:						
Sparta	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.88	Too sandy	0.88	Too sandy	0.88
					Slope	0.28
91A:						
Swygert	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
	Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
91B2:						
Swygert	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
	Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
					Slope	0.12
91C2:						
Swygert	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
	Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
					Slope	0.88
102A:						
La Hogue	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
125A:						
Selma	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
131B:						
Alvin	Not limited		Not limited		Somewhat limited	
					Slope	0.28
132A:						
Starks	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
134B:						
Camden	Not limited		Not limited		Somewhat limited	
					Slope	0.28

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
145B2:						
Saybrook-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	0.50
	Depth to saturated zone	0.03	Depth to saturated zone	0.02	Slow water movement	0.21
					Depth to saturated zone	0.03
146A:						
Elliott------------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
	Slow water movement	0.96	Depth to saturated zone	0.88	Slow water movement	0.96
146B2:						
Elliott------------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
	Slow water movement	0.96	Depth to saturated zone	0.88	Slow water movement	0.96
					Slope	0.12
146C2:						
Elliott------------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
	Slow water movement	0.96	Depth to saturated zone	0.88	Slow water movement	0.96
					Slope	0.88
147A:						
Clarence-----------	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
147B2:						
Clarence-----------	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Slope	0.12
147C2:						
Clarence-----------	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Slope	0.88
148A:						
Proctor------------	Not limited		Not limited		Not limited	
148B:						
Proctor------------	Not limited		Not limited		Somewhat limited	
					Slope	0.28

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148C2:						
Proctor-------------	Not limited		Not limited		Very limited	
					Slope	1.00
149A:						
Brenton-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
150B:						
Onarga--------------	Not limited		Not limited		Somewhat limited	
					Slope	0.28
150C2:						
Onarga--------------	Not limited		Not limited		Very limited	
					Slope	1.00
152A:						
Drummer-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
153A:						
Pella---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
154A:						
Flanagan------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
171B:						
Catlin--------------	Not limited		Not limited		Somewhat limited	
					Slope	0.28
182A:						
Peotone-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
198A:						
Elburn--------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
199B:						
Plano---------------	Not limited		Not limited		Somewhat limited	
					Slope	0.28

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
221B2:						
Parr	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	0.28
					Slow water movement	0.21
221C3:						
Parr	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
					Slow water movement	0.21
223B2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
					Slope	0.12
223C2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
					Slope	0.88
223D2:						
Varna	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
	Slope	0.04	Slope	0.04	Slow water movement	0.96
224G:						
Strawn	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
230A:						
Rowe	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
232A:						
Ashkum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
233B:						
Birkbeck	Not limited		Not limited		Somewhat limited	
					Slope	0.28

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
235A:						
Bryce	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
236A:						
Sabina	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
238A:						
Rantoul	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
241D3:						
Chatsworth	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
	Too clayey	1.00	Too clayey	1.00	Slow water movement	1.00
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Too clayey	1.00
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.16
242A:						
Kendall	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
291B:						
Xenia	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
					Slope	0.28
293A:						
Andres	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
294B:						
Symerton	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
					Slope	0.28

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
295A:						
Mokena	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
	Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
330A:						
Peotone	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
387B:						
Ockley	Not limited		Not limited		Somewhat limited	
					Slope	0.28
440A:						
Jasper	Not limited		Not limited		Not limited	
440B:						
Jasper	Not limited		Not limited		Somewhat limited	
					Slope	0.28
440C2:						
Jasper	Not limited		Not limited		Very limited	
					Slope	1.00
448B:						
Mona	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
					Slope	0.28
481A:						
Raub	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
490A:						
Odell	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
496A:						
Fincastle	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
496B2:						
Fincastle	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
					Slope	0.28

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
530C2:						
Ozaukee	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Slope	0.88
					Depth to saturated zone	0.16
530D2:						
Ozaukee	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Slow water movement	0.96
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.16
530D3:						
Ozaukee	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slow water movement	0.96
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.39
530E2:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
	Depth to saturated zone	0.01	Depth to saturated zone	0.01	Depth to saturated zone	0.01
530F:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
530G:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Depth to saturated zone	0.07
533:						
Urban land	Not rated		Not rated		Not rated	
536:						
Dumps	Not rated		Not rated		Not rated	
549G:						
Marseilles	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.95
570B:						
Martinsville	Not limited		Not limited		Somewhat limited	
					Slope	0.50

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
570C2:						
Martinsville--------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
570D2:						
Martinsville--------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
570F:						
Martinsville--------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
571A:						
Whitaker------------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
618C2:						
Senachwine----------	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
	Slope	0.01	Slope	0.01	Slow water movement	0.21
618C3:						
Senachwine----------	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
	Slope	0.01	Slope	0.01	Slow water movement	0.21
618D2:						
Senachwine----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
618E2:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
618F:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
623A:						
Kishwaukee----------	Not limited		Not limited		Not limited	
687B:						
Penfield------------	Not limited		Not limited		Somewhat limited	
					Slope	0.28
758A:						
Haskins-------------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
802B:						
Orthents, loamy-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	0.28
					Slow water movement	0.21
802F:						
Orthents, loamy-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
864:						
Pits, quarry--------	Not rated		Not rated		Not rated	
865:						
Pits, gravel--------	Not rated		Not rated		Not rated	
871B:						
Lenzburg-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	0.50
					Slow water movement	0.21
					Gravel content	0.02
871G:						
Lenzburg-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.21	Slow water movement	0.21	Gravel content	0.29
					Slow water movement	0.21
3107A:						
Sawmill-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
3183A:						
Shaffton-----------	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
	Depth to saturated zone	0.56	Depth to saturated zone	0.28	Depth to saturated zone	0.56
3302A:						
Ambraw--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
3473A:						
Rossburg-----------	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
7304A:						
Landes--------------	Very limited		Not limited		Not limited	
	Flooding	1.00				

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8304A:						
Landes	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Flooding	0.60
8473A:						
Rossburg	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Flooding	0.60
8674A:						
Dozaville	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Flooding	0.60

Table 15b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17A:						
Keomah	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
23A:						
Blount	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.98	Depth to saturated zone	0.99
23B2:						
Blount	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.98	Depth to saturated zone	0.99
43A:						
Ipava	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
56B2:						
Dana	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.03
59A:						
Lisbon	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
67A:						
Harpster	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
68A:						
Sable	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
69A:						
Milford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
88B:						
Sparta	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.88	Too sandy	0.88	Droughty	0.01

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
91A:						
Swygert	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
91B2:						
Swygert	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
91C2:						
Swygert	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
102A:						
La Hogue	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
125A:						
Selma	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
131B:						
Alvin	Not limited		Not limited		Not limited	
132A:						
Starks	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
134B:						
Camden	Not limited		Not limited		Not limited	
145B2:						
Saybrook	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.02
146A:						
Elliott	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to saturated zone	0.88
146B2:						
Elliott	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to saturated zone	0.88
146C2:						
Elliott	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to saturated zone	0.88
147A:						
Clarence	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
147B2:						
Clarence------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Droughty	0.01
147C2:						
Clarence------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Droughty	0.03
148A:						
Proctor-------------	Not limited		Not limited		Not limited	
148B:						
Proctor-------------	Not limited		Not limited		Not limited	
148C2:						
Proctor-------------	Not limited		Not limited		Not limited	
149A:						
Brenton-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
150B:						
Onarga--------------	Not limited		Not limited		Not limited	
150C2:						
Onarga--------------	Not limited		Not limited		Not limited	
152A:						
Drummer-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
153A:						
Pella---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
154A:						
Flanagan------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
171B:						
Catlin--------------	Not limited		Not limited		Not limited	
182A:						
Peotone-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
198A:						
Elburn	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
199B:						
Plano	Not limited		Not limited		Not limited	
221B2:						
Parr	Not limited		Not limited		Not limited	
221C3:						
Parr	Not limited		Not limited		Not limited	
223B2:						
Varna	Not limited		Not limited		Not limited	
223C2:						
Varna	Not limited		Not limited		Not limited	
223D2:						
Varna	Not limited		Not limited		Somewhat limited	
					Slope	0.04
224G:						
Strawn	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
230A:						
Rowe	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
232A:						
Ashkum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
233B:						
Birkbeck	Not limited		Not limited		Not limited	
235A:						
Bryce	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
236A:						
Sabina	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
238A:						
Rantoul	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
241D3:						
Chatsworth	Very limited		Very limited		Very limited	
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
					Droughty	0.99
					Depth to saturated zone	0.08
					Slope	0.04
242A:						
Kendall	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
291B:						
Xenia	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.19
293A:						
Andres	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
294B:						
Symerton	Not limited		Not limited		Not limited	
295A:						
Mokena	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
330A:						
Peotone	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
387B:						
Ockley	Not limited		Not limited		Not limited	
440A:						
Jasper	Not limited		Not limited		Not limited	
440B:						
Jasper	Not limited		Not limited		Not limited	
440C2:						
Jasper	Not limited		Not limited		Not limited	
448B:						
Mona	Not limited		Not limited		Not limited	
481A:						
Raub	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
490A:						
Odell	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
496A:						
Fincastle	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
496B2:						
Fincastle	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
530C2:						
Ozaukee	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.08
530D2:						
Ozaukee	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.08
					Slope	0.04
530D3:						
Ozaukee	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.19
					Slope	0.04
530E2:						
Ozaukee	Somewhat limited		Not limited		Very limited	
	Slope	0.02			Slope	1.00
					Depth to saturated zone	0.01
530F:						
Ozaukee	Very limited		Not limited		Very limited	
	Slope	1.00			Slope	1.00
530G:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to saturated zone	0.03
533:						
Urban land	Not rated		Not rated		Not rated	
536:						
Dumps	Not rated		Not rated		Not rated	
549G:						
Marseilles	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.95
570B:						
Martinsville	Not limited		Not limited		Not limited	
570C2:						
Martinsville	Not limited		Not limited		Somewhat limited	
					Slope	0.01

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
570D2:						
Martinsville--------	Not limited		Not limited		Somewhat limited	
					Slope	0.96
570F:						
Martinsville--------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.02	Slope	1.00
571A:						
Whitaker-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
618C2:						
Senachwine----------	Not limited		Not limited		Somewhat limited	
					Slope	0.01
618C3:						
Senachwine----------	Not limited		Not limited		Somewhat limited	
					Slope	0.01
618D2:						
Senachwine----------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
618E2:						
Senachwine----------	Somewhat limited		Not limited		Very limited	
	Slope	0.82			Slope	1.00
618F:						
Senachwine----------	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00	Slope	0.04		
623A:						
Kishwaukee----------	Not limited		Not limited		Not limited	
687B:						
Penfield------------	Not limited		Not limited		Not limited	
758A:						
Haskins-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.98	Depth to saturated zone	0.99
802B:						
Orthents, loamy-----	Not limited		Not limited		Not limited	
802F:						
Orthents, loamy-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.68				
864:						
Pits, quarry--------	Not rated		Not rated		Not rated	
865:						
Pits, gravel--------	Not rated		Not rated		Not rated	

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
871B:						
Lenzburg	Not limited		Not limited		Somewhat limited	
					Content of large stones	0.01
871G:						
Lenzburg	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Content of large stones	0.08
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
3183A:						
Shaffton	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
	Depth to saturated zone	0.01	Depth to saturated zone	0.01	Depth to saturated zone	0.28
3302A:						
Ambraw	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40	Ponding	1.00
3473A:						
Rossburg	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
7304A:						
Landes	Not limited		Not limited		Not limited	
8304A:						
Landes	Not limited		Not limited		Somewhat limited	
					Flooding	0.60
8473A:						
Rossburg	Not limited		Not limited		Somewhat limited	
					Flooding	0.60
8674A:						
Dozaville	Not limited		Not limited		Somewhat limited	
					Flooding	0.60

Table 16.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
17A: Keomah	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
23A: Blount	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
23B2: Blount	Fair	Good	Fair	Good	Good	Fair	Poor	Fair	Good	Poor.
43A: Ipava	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
56B2: Dana	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
59A: Lisbon	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
67A: Harpster	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
68A: Sable	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
69A: Milford	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
88B: Sparta	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
91A: Swygert	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
91B2: Swygert	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
91C2: Swygert	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
102A: La Hogue	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
125A: Selma	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
131B: Alvin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
132A: Starks	Fair	Good	Fair	Good	Good	Fair	Fair	Good	Good	Fair.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
134B: Camden	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
145B2: Saybrook	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
146A: Elliott	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
146B2: Elliott	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
146C2: Elliott	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
147A: Clarence	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
147B2: Clarence	Fair	Good	Good	Fair	Fair	Fair	Poor	Good	Fair	Poor.
147C2: Clarence	Fair	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
148A: Proctor	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
148B: Proctor	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
148C2: Proctor	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
149A: Brenton	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
150B: Onarga	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
150C2: Onarga	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
152A: Drummer	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
153A: Pella	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
154A: Flanagan	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
171B: Catlin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
182A: Peotone	Poor	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.
198A: Elburn	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
199B: Plano	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
221B2: Parr	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
221C3: Parr	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
223B2: Varna	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
223C2: Varna	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
223D2: Varna	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
224G: Strawn	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
230A: Rowe	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
232A: Ashkum	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
233B: Birkbeck	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
235A: Bryce	Poor	Fair	Poor	Fair	Poor	Fair	Good	Fair	Fair	Fair.
236A: Sabina	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
238A: Rantoul	Poor	Poor	Poor	Poor	Very poor.	Fair	Good	Poor	Poor	Fair.
241D3: Chatsworth	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
242A: Kendall	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
291B: Xenia	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
293A: Andres	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
294B: Symerton	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
295A: Mokena	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
330A: Peotone	Very poor.	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.
387B: Ockley	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
440A: Jasper	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
440B: Jasper	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
440C2: Jasper	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
448B: Mona	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
481A: Raub	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
490A: Odell	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
496A: Fincastle	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
496B2: Fincastle	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
530C2: Ozaukee	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
530D2: Ozaukee	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
530D3: Ozaukee	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
530E2: Ozaukee	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
530F: Ozaukee	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
530G: Ozaukee	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
533. Urban land										
536. Dumps										
549G: Marseilles	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
570B: Martinsville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
570C2: Martinsville	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
570D2: Martinsville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
570F: Martinsville	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
571A: Whitaker	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
618C2: Senachwine	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
618C3: Senachwine	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
618D2: Senachwine	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
618E2: Senachwine	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
618F: Senachwine	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
623A: Kishwaukee	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
687B: Penfield	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
758A: Haskins	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
802B: Orthents, loamy	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
802F: Orthents, loamy	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
864. Pits, quarry										
865. Pits, gravel										
871B: Lenzburg	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
871G: Lenzburg	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
3107A: Sawmill	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3183A: Shaffton	Poor	Fair	Fair	Good	Fair	Fair	Fair	Fair	Good	Fair.
3302A: Ambraw	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3473A: Rossburg	Poor	Fair	Fair	Good	Fair	Poor	Very poor.	Fair	Good	Very poor.
7304A: Landes	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
8304A: Landes	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
8473A: Rossburg	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
8674A:										
Dozaville---------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 17a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17A:						
Keomah	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00			Shrink-swell	1.00
23A:						
Blount	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
23B2:						
Blount	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
43A:						
Ipava	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
56B2:						
Dana	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07
59A:						
Lisbon	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50			Shrink-swell	0.50
67A:						
Harpster	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
68A:						
Sable	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69A:						
Milford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
88B:						
Sparta	Not limited		Not limited		Not limited	
91A:						
Swygert	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
91B2:						
Swygert	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
91C2:						
Swygert	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
					Slope	0.12
102A:						
La Hogue	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50			Shrink-swell	0.50
125A:						
Selma	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
131B:						
Alvin	Not limited		Not limited		Not limited	
132A:						
Starks	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
134B:						
Camden	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
145B2:						
Saybrook	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.03			Depth to saturated zone	0.03

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
146A:						
Elliott------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
146B2:						
Elliott------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
146C2:						
Elliott------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
					Slope	0.12
147A:						
Clarence-----------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
147B2:						
Clarence-----------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
147C2:						
Clarence-----------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
148A:						
Proctor------------	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
148B:						
Proctor------------	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
148C2:						
Proctor------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
149A:						
Brenton------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50			Shrink-swell	0.50
150B:						
Onarga-------------	Not limited		Not limited		Not limited	

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
150C2:						
Onarga	Not limited		Not limited		Somewhat limited	
					Slope	0.97
152A:						
Drummer	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
153A:						
Pella	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
154A:						
Flanagan	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
171B:						
Catlin	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Shrink-swell	0.50		
182A:						
Peotone	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
198A:						
Elburn	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
199B:						
Plano	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.27	Shrink-swell	0.27	Shrink-swell	0.27
221B2:						
Parr	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
221C3:						
Parr	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Slope	0.97
			Shrink-swell	0.50	Shrink-swell	0.50

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
223B2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
223C2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Shrink-swell	0.50	Slope	0.12
223D2:						
Varna	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
224G:						
Strawn	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
230A:						
Rowe	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
232A:						
Ashkum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Ponding	1.00	Shrink-swell	1.00
	Ponding	1.00	Shrink-swell	0.50	Ponding	1.00
233B:						
Birkbeck	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.92	Depth to saturated zone	0.99	Shrink-swell	0.92
			Shrink-swell	0.92		
235A:						
Bryce	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
236A:						
Sabina	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
238A:						
Rantoul	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
241D3:						
Chatsworth----------	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.16	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.16
242A:						
Kendall------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
291B:						
Xenia--------------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
293A:						
Andres-------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
294B:						
Symerton-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.97	Shrink-swell	0.50
295A:						
Mokena-------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
330A:						
Peotone------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
387B:						
Ockley-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
440A:						
Jasper-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
440B:						
Jasper-------------	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
440C2:						
Jasper-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.97

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
448B:						
Mona	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Shrink-swell	0.50		
481A:						
Raub	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
490A:						
Odell	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50			Shrink-swell	0.50
496A:						
Fincastle	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
496B2:						
Fincastle	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
530C2:						
Ozaukee	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.16	Depth to saturated zone	1.00	Depth to saturated zone	0.16
					Slope	0.12
530D2:						
Ozaukee	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.16	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.16
530D3:						
Ozaukee	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.39
530E2:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.01			Depth to saturated zone	0.01
530F:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530G:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.07			Depth to saturated zone	0.07
533:						
Urban land	Not rated		Not rated		Not rated	
536:						
Dumps	Not rated		Not rated		Not rated	
549G:						
Marseilles	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to soft bedrock	0.95	Shrink-swell	0.50
			Shrink-swell	0.50		
570B:						
Martinsville	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
570C2:						
Martinsville	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.01	Shrink-swell	0.01	Slope	1.00
	Slope	0.01	Slope	0.01	Shrink-swell	0.01
570D2:						
Martinsville	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
570F:						
Martinsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
571A:						
Whitaker	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
618C2:						
Senachwine	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Slope	0.01	Slope	1.00
	Slope	0.01			Shrink-swell	0.50
618C3:						
Senachwine	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Slope	0.01	Slope	1.00
	Slope	0.01			Shrink-swell	0.50
618D2:						
Senachwine	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
618E2:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
618F:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
623A:						
Kishwaukee----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
687B:						
Penfield------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.24		
758A:						
Haskins-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
802B:						
Orthents, loamy-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.47		
802F:						
Orthents, loamy-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.47		
864:						
Pits, quarry--------	Not rated		Not rated		Not rated	
865:						
Pits, gravel--------	Not rated		Not rated		Not rated	
871B:						
Lenzburg------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
871G:						
Lenzburg------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3107A:						
Sawmill-------------	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3183A:						
Shaffton------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.56	Depth to saturated zone	1.00	Depth to saturated zone	0.56
3302A:						
Ambraw--------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3473A:						
Rossburg------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
7304A:						
Landes--------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
8304A:						
Landes--------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
8473A:						
Rossburg------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
8674A:						
Dozaville-----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 17b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17A:						
Keomah	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.94				
23A:						
Blount	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Low strength	1.00	Dense layer	0.50		
	Depth to saturated zone	0.99	Cutbanks cave	0.10		
	Shrink-swell	0.50	Too clayey	0.02		
23B2:						
Blount	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Low strength	1.00	Dense layer	0.50		
	Depth to saturated zone	0.99	Cutbanks cave	0.10		
	Shrink-swell	0.50				
43A:						
Ipava	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.75				
56B2:						
Dana	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Depth to saturated zone	0.03				
59A:						
Lisbon	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Dense layer	0.50		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Shrink-swell	0.50				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
67A:						
Harpster------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
	Shrink-swell	0.50				
68A:						
Sable---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
	Shrink-swell	0.50				
69A:						
Milford-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00	Too clayey	0.01		
	Shrink-swell	0.50				
88B:						
Sparta--------------	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.01
91A:						
Swygert-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Shrink-swell	1.00	Too clayey	0.32		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Frost action	0.50				
91B2:						
Swygert-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Shrink-swell	1.00	Too clayey	0.32		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Frost action	0.50				
91C2:						
Swygert-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75	Too clayey	0.08		
	Frost action	0.50				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
102A:						
La Hogue------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Low strength	0.22				
125A:						
Selma---------------	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
131B:						
Alvin---------------	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
132A:						
Starks--------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	1.00		
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
134B:						
Camden--------------	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
145B2:						
Saybrook------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.02
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Depth to saturated zone	0.02				
146A:						
Elliott-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.88
	Depth to saturated zone	0.88	Dense layer	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
146B2:						
Elliott-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.88
	Depth to saturated zone	0.88	Dense layer	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
146C2:						
Elliott-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.88
	Depth to saturated zone	0.88	Dense layer	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
147A:						
Clarence------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Too clayey	0.88		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
147B2:						
Clarence------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Too clayey	0.50	Droughty	0.01
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
147C2:						
Clarence------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Too clayey	0.50	Droughty	0.03
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
148A:						
Proctor-------------	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
148B:						
Proctor-------------	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
148C2:						
Proctor-------------	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
149A:						
Brenton-------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.50		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
150B:						
Onarga	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
150C2:						
Onarga	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
152A:						
Drummer	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
153A:						
Pella	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	1.00	Ponding	1.00
	Low strength	1.00	Ponding	1.00		
	Ponding	1.00				
	Shrink-swell	0.50				
154A:						
Flanagan	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.75				
171B:						
Catlin	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.99		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
182A:						
Peotone	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Ponding	1.00				
198A:						
Elburn	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	1.00		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
199B:						
Plano---------------	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.27				
221B2:						
Parr----------------	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Shrink-swell	0.50				
	Frost action	0.50	Dense layer	0.50		
			Cutbanks cave	0.10		
221C3:						
Parr----------------	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Shrink-swell	0.50				
	Frost action	0.50	Dense layer	0.50		
			Cutbanks cave	0.10		
223B2:						
Varna---------------	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Shrink-swell	0.50				
	Frost action	0.50	Dense layer	0.50		
			Cutbanks cave	0.10		
223C2:						
Varna---------------	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Shrink-swell	0.50				
	Frost action	0.50	Dense layer	0.50		
			Cutbanks cave	0.10		
223D2:						
Varna---------------	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	0.99	Slope	0.04
	Shrink-swell	0.50				
	Frost action	0.50	Dense layer	0.50		
	Slope	0.04	Cutbanks cave	0.10		
			Slope	0.04		
224G:						
Strawn--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Cutbanks cave	0.10		
230A:						
Rowe----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Too clayey	0.82		
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Ponding	1.00				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
232A:						
Ashkum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Ponding	1.00				
233B:						
Birkbeck	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.99		
	Low strength	1.00				
	Shrink-swell	0.92	Cutbanks cave	0.10		
235A:						
Bryce	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Too clayey	1.00
	Low strength	1.00	Too clayey	0.50	Ponding	1.00
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
236A:						
Sabina	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00				
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.94				
238A:						
Rantoul	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Too clayey	1.00
	Low strength	1.00	Too clayey	0.59	Ponding	1.00
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
241D3:						
Chatsworth	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Shrink-swell	0.50			Droughty	0.99
	Frost action	0.50	Dense layer	0.50	Depth to saturated zone	0.08
	Depth to saturated zone	0.08	Too clayey	0.32		
			Cutbanks cave	0.10	Slope	0.04
	Slope	0.04	Slope	0.04		
242A:						
Kendall	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00				
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
	Shrink-swell	0.50				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
291B:						
Xenia---------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
293A:						
Andres--------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
	Depth to saturated zone	0.78	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
294B:						
Symerton------------	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50	Depth to saturated zone	0.97		
295A:						
Mokena--------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
330A:						
Peotone-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00	Too clayey	0.02		
	Ponding	1.00				
387B:						
Ockley--------------	Somewhat limited		Very limited		Not limited	
	Low strength	0.78	Cutbanks cave	1.00		
	Shrink-swell	0.50				
	Frost action	0.50				
440A:						
Jasper--------------	Very limited		Very limited		Not limited	
	Low strength	1.00	Cutbanks cave	1.00		
	Shrink-swell	0.50				
	Frost action	0.50				
440B:						
Jasper--------------	Very limited		Very limited		Not limited	
	Low strength	1.00	Cutbanks cave	1.00		
	Shrink-swell	0.50				
	Frost action	0.50				
440C2:						
Jasper--------------	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
448B:						
Mona----------------	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Shrink-swell	0.50	Dense layer	0.50		
	Frost action	0.50	Too clayey	0.12		
			Cutbanks cave	0.10		
481A:						
Raub----------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
490A:						
Odell---------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
496A:						
Fincastle-----------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
496B2:						
Fincastle-----------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
530C2:						
Ozaukee-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.08
	Frost action	0.50	Dense layer	0.50		
	Depth to saturated zone	0.08	Cutbanks cave	0.10		
530D2:						
Ozaukee-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.08
	Frost action	0.50	Dense layer	0.50	Slope	0.04
	Depth to saturated zone	0.08	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
530D3:						
Ozaukee-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Frost action	0.50	Dense layer	0.50	Slope	0.04
	Depth to saturated zone	0.19	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
530E2:						
Ozaukee	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Depth to saturated zone	0.01
	Shrink-swell	0.50	Dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
	Depth to saturated zone	0.01				
530F:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to saturated zone	0.99		
	Shrink-swell	0.50	Dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
530G:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
	Low strength	1.00	Dense layer	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Depth to saturated zone	0.03				
533:						
Urban land	Not rated		Not rated		Not rated	
536:						
Dumps	Not rated		Not rated		Not rated	
549G:						
Marseilles	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Depth to soft bedrock	0.95	Depth to bedrock	0.95
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
570B:						
Martinsville	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
	Shrink-swell	0.01				
570C2:						
Martinsville	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Cutbanks cave	1.00	Slope	0.01
	Frost action	0.50	Slope	0.01		
	Shrink-swell	0.01				
	Slope	0.01				
570D2:						
Martinsville	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.96	Cutbanks cave	1.00	Slope	0.96
	Frost action	0.50	Slope	0.96		
	Shrink-swell	0.01				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
570F:						
Martinsville--------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
571A:						
Whitaker------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	1.00		
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
618C2:						
Senachwine----------	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Cutbanks cave	0.10	Slope	0.01
	Shrink-swell	0.50	Slope	0.01		
	Frost action	0.50				
	Slope	0.01				
618C3:						
Senachwine----------	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Cutbanks cave	0.10	Slope	0.01
	Shrink-swell	0.50	Slope	0.01		
	Frost action	0.50				
	Slope	0.01				
618D2:						
Senachwine----------	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
618E2:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
618F:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
623A:						
Kishwaukee----------	Very limited		Very limited		Not limited	
	Low strength	1.00	Cutbanks cave	1.00		
	Shrink-swell	0.50				
	Frost action	0.50				
687B:						
Penfield------------	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Depth to saturated zone	0.24		
	Frost action	0.50	Cutbanks cave	0.10		
	Low strength	0.22				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
758A: Haskins	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.99 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.99
802B: Orthents, loamy	Somewhat limited Shrink-swell Frost action Low strength	 0.50 0.50 0.22	Somewhat limited Depth to saturated zone Cutbanks cave	 0.47 0.10	Not limited	
802F: Orthents, loamy	Very limited Slope Shrink-swell Frost action Low strength	 1.00 0.50 0.50 0.22	Very limited Slope Depth to saturated zone Cutbanks cave	 1.00 0.47 0.10	Very limited Slope	 1.00
864: Pits, quarry	Not rated		Not rated		Not rated	
865: Pits, gravel	Not rated		Not rated		Not rated	
871B: Lenzburg	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Cutbanks cave	 0.10	Somewhat limited Content of large stones	 0.01
871G: Lenzburg	Very limited Slope Low strength Shrink-swell Frost action	 1.00 0.78 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 1.00	Very limited Slope Content of large stones	 1.00 0.08
3107A: Sawmill	Very limited Ponding Depth to saturated zone Frost action Flooding Low strength	 1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding Cutbanks cave	 1.00 1.00 0.80 0.10	Very limited Ponding Flooding Depth to saturated zone	 1.00 1.00 1.00
3183A: Shaffton	Very limited Flooding Low strength Frost action Depth to saturated zone	 1.00 1.00 0.50 0.28	Very limited Depth to saturated zone Cutbanks cave Flooding	 1.00 1.00 0.80	Very limited Flooding Depth to saturated zone	 1.00 0.28

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
3302A:						
Ambraw	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
3473A:						
Rossburg	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.80	Flooding	1.00
	Frost action	0.50	Cutbanks cave	0.10		
7304A:						
Landes	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
	Flooding	0.40				
8304A:						
Landes	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Frost action	0.50	Flooding	0.60		
8473A:						
Rossburg	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Frost action	0.50	Cutbanks cave	0.10		
8674A:						
Dozaville	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				

Table 18a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
17A:				
Keomah	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
23A:				
Blount	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
23B2:				
Blount	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.08
43A:				
Ipava	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
56B2:				
Dana	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
	Slow water movement	1.00	Depth to saturated zone	0.44
			Slope	0.32
59A:				
Lisbon	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
67A:				
Harpster	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.46	Seepage	0.53

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
68A:				
Sable	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.46	Seepage	0.53
69A:				
Milford	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00		
88B:				
Sparta	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Slope	0.18
91A:				
Swygert	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
91B2:				
Swygert	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.08
91C2:				
Swygert	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.68
102A:				
La Hogue	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
125A:				
Selma	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46		
131B:				
Alvin	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
			Slope	0.18
132A:				
Starks	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
134B:				
Camden	Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	0.53
	Slow water movement	0.46	Slope	0.18
145B2:				
Saybrook	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
	Slow water movement	1.00	Depth to saturated zone	0.36
			Slope	0.32
146A:				
Elliott	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
146B2:				
Elliott	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.08
146C2:				
Elliott	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.68

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
147A:				
Clarence------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
147B2:				
Clarence------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.08
147C2:				
Clarence------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.68
148A:				
Proctor-------------	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
148B:				
Proctor-------------	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
			Slope	0.18
	Slow water movement	0.46		
148C2:				
Proctor-------------	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
			Seepage	1.00
	Slow water movement	0.46		
149A:				
Brenton-------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
150B:				
Onarga--------------	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
			Slope	0.18
150C2:				
Onarga--------------	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
			Slope	1.00

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
152A:				
Drummer	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
153A:				
Pella	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
			Ponding	1.00
	Ponding	1.00		
	Slow water movement	0.46		
154A:				
Flanagan	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
171B:				
Catlin	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.18
	Slow water movement	1.00	Depth to saturated zone	0.08
182A:				
Peotone	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		
198A:				
Elburn	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
			Depth to saturated zone	1.00
	Seepage, bottom layer	1.00		
	Slow water movement	0.46		
199B:				
Plano	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
			Slope	0.18
	Slow water movement	0.46		

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
221B2:				
Parr	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
	Slow water movement	1.00	Slope	0.18
			Depth to saturated zone	0.04
221C3:				
Parr	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Seepage	0.53
			Depth to saturated zone	0.04
223B2:				
Varna	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.08
	Depth to saturated zone	1.00	Depth to saturated zone	0.04
223C2:				
Varna	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.68
	Depth to saturated zone	1.00	Depth to saturated zone	0.04
223D2:				
Varna	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.04
	Slope	0.04		
224G:				
Strawn	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	1.00	Seepage	0.53
230A:				
Rowe	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		
232A:				
Ashkum	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00		

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
233B:				
Birkbeck------------	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
	Slow water movement	1.00	Depth to saturated zone	0.19
			Slope	0.18
235A:				
Bryce---------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		
236A:				
Sabina--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
238A:				
Rantoul-------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		
241D3:				
Chatsworth----------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.56
	Slope	0.04		
242A:				
Kendall-------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
291B:				
Xenia---------------	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Slow water movement	1.00	Seepage	0.53
			Slope	0.18
293A:				
Andres--------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
294B:				
Symerton	Very limited		Somewhat limited	
	Slow water movement	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.18
			Depth to saturated zone	0.01
295A:				
Mokena	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
330A:				
Peotone	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00		
387B:				
Ockley	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
440A:				
Jasper	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
440B:				
Jasper	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
440C2:				
Jasper	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	1.00
448B:				
Mona	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.18
	Depth to saturated zone	1.00	Depth to saturated zone	0.04

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
481A:				
Raub	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
490A:				
Odell	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
496A:				
Fincastle	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
496B2:				
Fincastle	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
			Slope	0.18
530C2:				
Ozaukee	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.68
	Depth to saturated zone	1.00	Depth to saturated zone	0.56
530D2:				
Ozaukee	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.56
	Slope	0.04		
530D3:				
Ozaukee	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Slope	0.04		
530E2:				
Ozaukee	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.25
	Slope	1.00		

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
530F:				
Ozaukee	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.04
	Slope	1.00		
530G:				
Ozaukee	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.44
	Slope	1.00		
533:				
Urban land	Not rated		Not rated	
536:				
Dumps	Not rated		Not rated	
549G:				
Marseilles	Very limited		Very limited	
	Slope	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
			Seepage	0.28
570B:				
Martinsville	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.32
570C2:				
Martinsville	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	1.00
	Slope	0.01		
570D2:				
Martinsville	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
	Slope	0.96	Seepage	0.53
	Slow water movement	0.46		
570F:				
Martinsville	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
571A:				
Whitaker------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
618C2:				
Senachwine----------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
			Seepage	0.53
	Slope	0.01		
618C3:				
Senachwine----------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
			Seepage	0.53
	Slope	0.01		
618D2:				
Senachwine----------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
			Seepage	0.53
	Slope	0.96		
618E2:				
Senachwine----------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	1.00	Seepage	0.53
618F:				
Senachwine----------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	1.00	Seepage	0.53
623A:				
Kishwaukee----------	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
687B:				
Penfield------------	Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	0.53
			Slope	0.18
	Depth to saturated zone	0.65	Depth to saturated zone	0.02
	Slow water movement	0.46		
758A:				
Haskins-------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
802B:				
Orthents, loamy	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.18
	Depth to saturated zone	0.94		
802F:				
Orthents, loamy	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	1.00		
	Depth to saturated zone	0.94		
864:				
Pits, quarry	Not rated		Not rated	
865:				
Pits, gravel	Not rated		Not rated	
871B:				
Lenzburg	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.32
871G:				
Lenzburg	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	1.00		
3107A:				
Sawmill	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
3183A:				
Shaffton	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
			Depth to saturated zone	1.00
	Seepage, bottom layer	1.00		
	Slow water movement	0.46		
3302A:				
Ambraw	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.46	Seepage	0.53

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3473A:				
Rossburg-----------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
7304A:				
Landes-------------	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Flooding	0.40	Flooding	0.40
8304A:				
Landes-------------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
8473A:				
Rossburg-----------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
8674A:				
Dozaville----------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Slow water movement	0.46	Seepage	0.53

Table 18b.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17A:						
Keomah	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Too clayey	0.50
23A:						
Blount	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
23B2:						
Blount	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
43A:						
Ipava	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
56B2:						
Dana	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.95	Depth to saturated zone	0.44	Depth to saturated zone	0.68
	Too clayey	0.50			Too clayey	0.50
59A:						
Lisbon	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Too clayey	0.50
67A:						
Harpster	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
68A:						
Sable	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
69A:						
Milford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
88B:						
Sparta	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
91A:						
Swygert	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
					Depth to saturated zone	1.00
91B2:						
Swygert	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
					Depth to saturated zone	1.00
91C2:						
Swygert	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
					Depth to saturated zone	1.00
102A:						
La Hogue	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00				
125A:						
Selma	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00			Seepage	0.52
131B:						
Alvin	Very limited		Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.52
	Too sandy	1.00			Too sandy	0.50

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
132A:						
Starks	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50			Too sandy	0.50
	Too sandy	0.50			Seepage	0.22
134B:						
Camden	Very limited		Not limited		Not limited	
	Seepage, bottom layer	1.00				
145B2:						
Saybrook	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.93	Depth to saturated zone	0.36	Depth to saturated zone	0.62
146A:						
Elliott	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
146B2:						
Elliott	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
146C2:						
Elliott	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
147A:						
Clarence	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
					Depth to saturated zone	1.00
147B2:						
Clarence	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
					Depth to saturated zone	1.00
147C2:						
Clarence	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
					Depth to saturated zone	1.00

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148A:						
Proctor	Very limited		Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.22
148B:						
Proctor	Very limited		Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.22
148C2:						
Proctor	Very limited		Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too clayey	0.50
	Too clayey	0.50				
149A:						
Brenton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Too clayey	0.50
150B:						
Onarga	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
					Seepage	1.00
	Too sandy	1.00				
150C2:						
Onarga	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
					Seepage	1.00
	Too sandy	1.00				
152A:						
Drummer	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00				
	Too clayey	0.50			Too clayey	0.50
153A:						
Pella	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
					Too clayey	0.50
	Ponding	1.00				
	Too clayey	0.50				
154A:						
Flanagan	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
171B:						
Catlin	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.76	Depth to saturated zone	0.08	Too clayey	0.50
					Depth to saturated zone	0.32
	Too clayey	0.50				

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
182A:						
Peotone	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Hard to compact	1.00
	Too clayey	0.50			Ponding	1.00
					Too clayey	0.50
198A:						
Elburn	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
199B:						
Plano	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
221B2:						
Parr	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Depth to saturated zone	0.24
221C3:						
Parr	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
223B2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
223C2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
223D2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Slope	0.04	Too clayey	0.50
	Too clayey	0.50	Depth to saturated zone	0.04	Depth to saturated zone	0.24
	Slope	0.04			Slope	0.04
224G:						
Strawn	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
230A:						
Rowe	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Ponding	1.00	Too clayey	1.00
	Ponding	1.00			Hard to compact	1.00
					Ponding	1.00
232A:						
Ashkum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
233B:						
Birkbeck	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.19	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.47
235A:						
Bryce	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Ponding	1.00	Too clayey	1.00
	Ponding	1.00			Hard to compact	1.00
					Ponding	1.00
236A:						
Sabina	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50
238A:						
Rantoul	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Ponding	1.00	Too clayey	1.00
	Ponding	1.00			Hard to compact	1.00
					Ponding	1.00
241D3:						
Chatsworth	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Depth to saturated zone	0.56	Too clayey	1.00
	Depth to saturated zone	0.98	Slope	0.04	Hard to compact	1.00
	Slope	0.04			Depth to saturated zone	0.76
					Slope	0.04
242A:						
Kendall	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
291B:						
Xenia---------------	Very limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
	Too clayey	0.50			Too clayey	0.50
293A:						
Andres--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
294B:						
Symerton------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.53	Depth to saturated zone	0.01	Depth to saturated zone	0.14
295A:						
Mokena--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
330A:						
Peotone-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Ponding	1.00	Too clayey	1.00
	Ponding	1.00			Hard to compact	1.00
					Ponding	1.00
387B:						
Ockley--------------	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
					Gravel content	0.01
	Too clayey	0.50				
440A:						
Jasper--------------	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
440B:						
Jasper--------------	Very limited		Not limited		Not limited	
	Seepage, bottom layer	1.00				
440C2:						
Jasper--------------	Very limited		Not limited		Not limited	
	Seepage, bottom layer	1.00				
448B:						
Mona----------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
481A:						
Raub----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
490A:						
Odell---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
496A:						
Fincastle-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
496B2:						
Fincastle-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
530C2:						
Ozaukee-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.56	Depth to saturated zone	0.76
	Too clayey	0.50			Too clayey	0.50
530D2:						
Ozaukee-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.56	Depth to saturated zone	0.76
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
530D3:						
Ozaukee-------------	Very limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
530E2:						
Ozaukee-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.89	Depth to saturated zone	0.25	Depth to saturated zone	0.53
	Too clayey	0.50			Too clayey	0.50
530F:						
Ozaukee-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
530G:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.95	Depth to saturated zone	0.44	Depth to saturated zone	0.68
	Too clayey	0.50			Too clayey	0.50
533:						
Urban land	Not rated		Not rated		Not rated	
536:						
Dumps	Not rated		Not rated		Not rated	
549G:						
Marseilles	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
570B:						
Martinsville	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
570C2:						
Martinsville	Very limited		Somewhat limited		Somewhat limited	
	Seepage, bottom layer	1.00	Slope	0.01	Too clayey	0.50
					Slope	0.01
	Too clayey	0.50				
	Slope	0.01				
570D2:						
Martinsville	Very limited		Somewhat limited		Somewhat limited	
	Seepage, bottom layer	1.00	Slope	0.96	Slope	0.96
					Too clayey	0.50
	Slope	0.96				
	Too clayey	0.50				
570F:						
Martinsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00				
571A:						
Whitaker	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
618C2:						
Senachwine	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.01	Slope	0.01	Slope	0.01
618C3:						
Senachwine	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.01	Slope	0.01	Slope	0.01

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
618D2:						
Senachwine----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
618E2:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
618F:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
623A:						
Kishwaukee----------	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
687B:						
Penfield------------	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Seepage, bottom layer	1.00				
	Too clayey	0.50				
758A:						
Haskins-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
802B:						
Orthents, loamy-----	Not limited		Not limited		Not limited	
802F:						
Orthents, loamy-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
864:						
Pits, quarry--------	Not rated		Not rated		Not rated	
865:						
Pits, gravel--------	Not rated		Not rated		Not rated	
871B:						
Lenzburg------------	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
871G:						
Lenzburg------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
3107A:						
Sawmill-------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
3183A:						
Shaffton	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.91
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
	Seepage, bottom layer	1.00				
3302A:						
Ambraw	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Too clayey	0.50
	Too clayey	0.50				
3473A:						
Rossburg	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		
	Seepage, bottom layer	1.00				
7304A:						
Landes	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Flooding	0.40	Seepage	1.00
	Flooding	0.40				
8304A:						
Landes	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Too sandy	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00				
8473A:						
Rossburg	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		
	Seepage, bottom layer	1.00				
8674A:						
Dozaville	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		

Table 19a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
17A:				
Keomah	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
23A:				
Blount	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
23B2:				
Blount	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
43A:				
Ipava	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
56B2:				
Dana	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
59A:				
Lisbon	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
67A:				
Harpster	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
68A:				
Sable	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
69A:				
Milford	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
88B:				
Sparta	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.21
	Thickest layer	0.00	Bottom layer	0.55

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
91A:				
Swygert	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
91B2:				
Swygert	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
91C2:				
Swygert	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
102A:				
La Hogue	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.06
125A:				
Selma	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04
131B:				
Alvin	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
132A:				
Starks	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
134B:				
Camden	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.05
145B2:				
Saybrook	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
146A:				
Elliott	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
146B2:				
Elliott	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
146C2:				
Elliott	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
147A:				
Clarence------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
147B2:				
Clarence------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
147C2:				
Clarence------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
148A:				
Proctor-------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
148B:				
Proctor-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
148C2:				
Proctor-------------	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.14
149A:				
Brenton-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
150B:				
Onarga--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.65
150C2:				
Onarga--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.65
152A:				
Drummer-------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.02
153A:				
Pella---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
154A:				
Flanagan------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
171B:				
Catlin	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
182A:				
Peotone	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
198A:				
Elburn	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.18
199B:				
Plano	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.26
221B2:				
Parr	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
221C3:				
Parr	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
223B2:				
Varna	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
223C2:				
Varna	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
223D2:				
Varna	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
224G:				
Strawn	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
230A:				
Rowe	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
232A:				
Ashkum	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
233B:				
Birkbeck------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
235A:				
Bryce---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
236A:				
Sabina--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
238A:				
Rantoul-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
241D3:				
Chatsworth----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
242A:				
Kendall-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
291B:				
Xenia---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
293A:				
Andres--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
294B:				
Symerton------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
295A:				
Mokena--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
330A:				
Peotone-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
387B:				
Ockley--------------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.83	Bottom layer	0.50

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
440A:				
Jasper--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.17
440B:				
Jasper--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.17
440C2:				
Jasper--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.17
448B:				
Mona----------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
481A:				
Raub----------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
490A:				
Odell---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
496A:				
Fincastle-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
496B2:				
Fincastle-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530C2:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530D2:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530D3:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530E2:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
530F:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530G:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
533:				
Urban land----------	Not rated		Not rated	
536:				
Dumps---------------	Not rated		Not rated	
549G:				
Marseilles----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
570B:				
Martinsville--------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
570C2:				
Martinsville--------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
570D2:				
Martinsville--------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
570F:				
Martinsville--------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
571A:				
Whitaker------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.06
618C2:				
Senachwine----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
618C3:				
Senachwine----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
618D2:				
Senachwine----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
618E2:				
Senachwine----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
618F:				
Senachwine----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
623A:				
Kishwaukee----------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.83	Bottom layer	0.69
687B:				
Penfield------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
758A:				
Haskins-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
802B:				
Orthents, Loamy-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
802F:				
Orthents, Loamy-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
864:				
Pits, quarry--------	Not rated		Not rated	
865:				
Pits, gravel--------	Not rated		Not rated	
871B:				
Lenzburg------------	Fair		Poor	
	Thickest layer	0.08	Bottom layer	0.00
	Bottom layer	0.15	Thickest layer	0.00
871G:				
Lenzburg------------	Fair		Poor	
	Thickest layer	0.08	Bottom layer	0.00
	Bottom layer	0.15	Thickest layer	0.00
3107A:				
Sawmill-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3183A:				
Shaffton------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
3302A:				
Ambraw--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3473A:				
Rossburg------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
7304A:				
Landes--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.30
	Thickest layer	0.00	Bottom layer	0.84
8304A:				
Landes--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.30
	Thickest layer	0.00	Bottom layer	0.84
8473A:				
Rossburg------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
8674A:				
Dozaville-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19b.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
17A:						
Keomah	Fair		Poor		Fair	
	Content of organic matter	0.02	Low strength	0.00	Wetness	0.04
	Too clayey	0.08	Wetness	0.04	Too clayey	0.05
	Water erosion	0.68	Shrink-swell	0.89		
	Too acid	0.74				
23A:						
Blount	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Content of organic matter	0.12	Wetness	0.01	Wetness	0.01
	Too acid	0.50				
	Carbonate content	0.68				
	Water erosion	0.90				
23B2:						
Blount	Fair		Poor		Fair	
	Content of organic matter	0.08	Low strength	0.00	Wetness	0.01
	Too clayey	0.32	Wetness	0.01	Too clayey	0.18
	Carbonate content	0.68			Rock fragments	0.97
	Water erosion	0.90				
	Too acid	0.92				
43A:						
Ipava	Fair		Poor		Fair	
	Too clayey	0.18	Low strength	0.00	Too clayey	0.14
	Content of organic matter	0.18	Wetness	0.14	Wetness	0.14
	Too acid	0.84	Shrink-swell	0.83		
	Water erosion	0.99				
56B2:						
Dana	Fair		Poor		Fair	
	Carbonate content	0.68	Low strength	0.00	Wetness	0.76
	Too acid	0.95	Wetness	0.76	Too clayey	0.76
	Too clayey	0.98	Shrink-swell	0.93		
	Water erosion	0.99				
59A:						
Lisbon	Fair		Fair		Fair	
	Content of organic matter	0.12	Wetness	0.14	Wetness	0.14
	Carbonate content	0.46	Shrink-swell	0.99		
	Water erosion	0.99				
67A:						
Harpster	Fair		Poor		Poor	
	Carbonate content	0.80	Wetness	0.00	Wetness	0.00
	Too clayey	0.92	Low strength	0.00	Too clayey	0.72
	Water erosion	0.99	Shrink-swell	0.99	Carbonate content	0.96

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68A:						
Sable---------------	Fair		Poor		Poor	
	Content of organic matter	0.68	Wetness	0.00	Wetness	0.00
			Low strength	0.00	Too clayey	0.98
	Too clayey	0.98	Shrink-swell	0.97		
	Water erosion	0.99				
69A:						
Milford-------------	Fair		Poor		Poor	
	Too clayey	0.05	Wetness	0.00	Wetness	0.00
	Too acid	0.99	Low strength	0.00	Too clayey	0.04
	Water erosion	0.99	Shrink-swell	0.72		
88B:						
Sparta--------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Content of organic matter	0.18				
91A:						
Swygert-------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Content of organic matter	0.12	Wetness	0.14	Wetness	0.14
			Shrink-swell	0.24		
	Carbonate content	0.80				
	Too acid	0.97				
91B2:						
Swygert-------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.80	Wetness	0.14	Wetness	0.14
	Content of organic matter	0.92	Shrink-swell	0.26		
91C2:						
Swygert-------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Content of organic matter	0.08	Wetness	0.14	Wetness	0.14
			Shrink-swell	0.47		
	Carbonate content	0.80				
	Water erosion	0.99				
102A:						
La Hogue------------	Fair		Fair		Fair	
	Too acid	0.99	Wetness	0.14	Wetness	0.14
125A:						
Selma---------------	Good		Poor		Poor	
			Wetness	0.00	Wetness	0.00
			Shrink-swell	0.98		
131B:						
Alvin---------------	Fair		Good		Good	
	Content of organic matter	0.05				
	Too acid	0.88				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
132A:						
Starks	Fair		Fair		Fair	
	Water erosion	0.68	Wetness	0.04	Wetness	0.04
	Content of organic matter	0.68			Too clayey	0.67
	Too clayey	0.98				
	Too acid	0.99				
134B:						
Camden	Fair		Fair		Good	
	Content of organic matter	0.08	Shrink-swell	0.92		
	Water erosion	0.68				
	Too acid	0.84				
145B2:						
Saybrook	Fair		Fair		Fair	
	Content of organic matter	0.02	Wetness	0.80	Too clayey	0.70
	Too acid	0.84			Wetness	0.80
	Too clayey	0.98				
	Water erosion	0.99				
146A:						
Elliott	Fair		Poor		Fair	
	Content of organic matter	0.18	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Too clayey	0.55
	Too acid	0.84	Shrink-swell	0.97		
	Too clayey	0.92				
	Water erosion	0.99				
146B2:						
Elliott	Fair		Poor		Fair	
	Content of organic matter	0.12	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Too clayey	0.55
	Too acid	0.84				
	Water erosion	0.90				
	Too clayey	0.92				
146C2:						
Elliott	Fair		Poor		Fair	
	Content of organic matter	0.12	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Too clayey	0.55
	Too acid	0.84	Shrink-swell	0.99		
	Water erosion	0.90				
	Too clayey	0.92				
147A:						
Clarence	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Content of organic matter	0.50	Wetness	0.14	Wetness	0.14
	Droughty	0.91	Shrink-swell	0.87		
	Carbonate content	0.97				
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
147B2:						
Clarence	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Content of organic matter	0.50	Wetness	0.14	Wetness	0.14
	Droughty	0.74	Shrink-swell	0.87		
	Carbonate content	0.97				
	Water erosion	0.99				
147C2:						
Clarence	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Content of organic matter	0.12	Wetness	0.14	Wetness	0.14
	Droughty	0.69	Shrink-swell	0.87		
	Carbonate content	0.97				
	Water erosion	0.99				
148A:						
Proctor	Fair		Fair		Fair	
	Content of organic matter	0.24	Shrink-swell	0.99	Too clayey	0.81
	Too clayey	0.98				
	Water erosion	0.99				
148B:						
Proctor	Fair		Good		Fair	
	Content of organic matter	0.24			Too clayey	0.81
	Too clayey	0.98				
	Water erosion	0.99				
148C2:						
Proctor	Fair		Poor		Fair	
	Too clayey	0.98	Low strength	0.00	Too clayey	0.81
	Water erosion	0.99	Shrink-swell	0.96		
149A:						
Brenton	Fair		Fair		Fair	
	Content of organic matter	0.08	Wetness	0.14	Wetness	0.14
					Too clayey	0.64
	Too clayey	0.82				
	Too acid	0.84				
	Water erosion	0.99				
150B:						
Onarga	Fair		Good		Good	
	Content of organic matter	0.12				
	Too acid	0.68				
150C2:						
Onarga	Fair		Good		Fair	
	Content of organic matter	0.12			Too acid	0.95
	Too acid	0.50				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
152A:						
Drummer-------------	Fair		Poor		Poor	
	Too acid	0.95	Wetness	0.00	Wetness	0.00
	Too clayey	0.98	Low strength	0.00	Too clayey	0.86
	Water erosion	0.99	Shrink-swell	0.99		
153A:						
Pella---------------	Fair		Poor		Poor	
	Carbonate content	0.80	Wetness	0.00	Wetness	0.00
	Too clayey	0.98	Low strength	0.00	Too clayey	0.81
	Too acid	0.99	Shrink-swell	0.99		
	Water erosion	0.99				
154A:						
Flanagan------------	Fair		Poor		Fair	
	Too clayey	0.18	Low strength	0.00	Too clayey	0.13
	Carbonate content	0.68	Wetness	0.14	Wetness	0.14
	Too acid	0.84	Shrink-swell	0.90		
	Content of organic matter	0.88				
	Water erosion	0.99				
171B:						
Catlin--------------	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Too clayey	0.64
	Too acid	0.97	Shrink-swell	0.90	Wetness	0.95
	Water erosion	0.99	Wetness	0.95		
182A:						
Peotone-------------	Poor		Poor		Poor	
	Carbonate content	0.00	Wetness	0.00	Wetness	0.00
	Too clayey	0.02	Low strength	0.00	Too clayey	0.02
	Too acid	0.92	Shrink-swell	0.20		
198A:						
Elburn--------------	Fair		Poor		Fair	
	Too clayey	0.98	Low strength	0.00	Wetness	0.14
	Water erosion	0.99	Wetness	0.14	Too clayey	0.81
			Shrink-swell	0.99		
199B:						
Plano---------------	Fair		Poor		Fair	
	Content of organic matter	0.68	Low strength	0.00	Too clayey	0.67
			Shrink-swell	0.99		
	Too acid	0.92				
	Too clayey	0.98				
	Water erosion	0.99				
221B2:						
Parr----------------	Fair		Fair		Fair	
	Content of organic matter	0.24	Wetness	0.98	Wetness	0.98
	Carbonate content	0.92				
	Water erosion	0.99				
	Too acid	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
221C3:						
Parr----------------	Fair		Poor		Fair	
	Content of organic matter	0.24	Low strength	0.00	Wetness	0.98
	Carbonate content	0.92	Wetness	0.98		
	Water erosion	0.99	Shrink-swell	0.99		
	Too acid	0.99				
223B2:						
Varna---------------	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.06
	Content of organic matter	0.12	Wetness	0.98	Wetness	0.98
	Water erosion	0.90	Shrink-swell	0.99		
	Carbonate content	0.97				
223C2:						
Varna---------------	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.06
	Content of organic matter	0.68	Shrink-swell	0.95	Wetness	0.98
	Carbonate content	0.97	Wetness	0.98		
	Water erosion	0.99				
223D2:						
Varna---------------	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.06
	Content of organic matter	0.12	Wetness	0.98	Slope	0.96
	Water erosion	0.90			Wetness	0.98
	Carbonate content	0.97				
	Too acid	0.99				
224G:						
Strawn--------------	Fair		Poor		Poor	
	Content of organic matter	0.24	Slope	0.00	Slope	0.00
	Too acid	0.54				
	Carbonate content	0.97				
	Water erosion	0.99				
230A:						
Rowe----------------	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Too clayey	0.00
	Too acid	0.99	Low strength	0.00	Wetness	0.00
			Shrink-swell	0.17		
232A:						
Ashkum--------------	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Wetness	0.00
	Content of organic matter	0.18	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.97	Shrink-swell	0.60		
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
233B:						
Birkbeck------------	Fair		Poor		Fair	
	Too acid	0.16	Low strength	0.00	Too clayey	0.49
	Content of organic matter	0.18	Shrink-swell	0.78	Wetness	0.89
	Water erosion	0.68	Wetness	0.89	Too acid	0.98
	Too clayey	0.82				
	Carbonate content	0.95				
235A:						
Bryce---------------	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Too clayey	0.00
	Too acid	0.97	Low strength	0.00	Wetness	0.00
	Carbonate content	0.97	Shrink-swell	0.14		
236A:						
Sabina--------------	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Wetness	0.04
	Water erosion	0.37	Wetness	0.04	Too clayey	0.05
	Content of organic matter	0.50	Shrink-swell	0.56		
	Too acid	0.88				
	Carbonate content	0.92				
238A:						
Rantoul-------------	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Too clayey	0.00
			Low strength	0.00	Wetness	0.00
			Shrink-swell	0.12		
241D3:						
Chatsworth----------	Poor		Poor		Poor	
	Droughty	0.00	Low strength	0.00	Too clayey	0.00
	Too clayey	0.00	Wetness	0.68	Wetness	0.68
	Content of organic matter	0.12	Shrink-swell	0.87	Slope	0.96
	Carbonate content	0.97				
	Water erosion	0.99				
242A:						
Kendall-------------	Fair		Poor		Fair	
	Content of organic matter	0.12	Low strength	0.00	Wetness	0.04
			Wetness	0.04	Too clayey	0.57
	Too acid	0.61	Shrink-swell	0.95	Too acid	0.99
	Water erosion	0.68				
	Too clayey	0.98				
291B:						
Xenia---------------	Fair		Poor		Fair	
	Water erosion	0.68	Low strength	0.00	Wetness	0.53
	Carbonate content	0.68	Wetness	0.53	Too clayey	0.67
	Content of organic matter	0.68	Shrink-swell	0.89		
	Too acid	0.74				
	Too clayey	0.98				
293A:						
Andres--------------	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Wetness	0.12
	Carbonate content	0.84	Wetness	0.12	Too clayey	0.64
	Water erosion	0.99	Shrink-swell	0.96		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
294B:						
Symerton	Fair		Poor		Fair	
	Content of organic matter	0.12	Low strength	0.00	Rock fragments	0.12
	Too acid	0.84	Wetness	0.99	Wetness	0.99
	Water erosion	0.90				
	Carbonate content	0.97				
295A:						
Mokena	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Wetness	0.14
	Carbonate content	0.97	Wetness	0.14	Too clayey	0.64
			Shrink-swell	0.91		
330A:						
Peotone	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Wetness	0.00
	Water erosion	0.99	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.23		
387B:						
Ockley	Fair		Fair		Poor	
	Carbonate content	0.68	Low strength	0.22	Hard to reclaim (rock fragments)	0.00
	Content of organic matter	0.68	Shrink-swell	0.98		
	Too acid	0.74				
440A:						
Jasper	Fair		Poor		Good	
	Too acid	0.97	Low strength	0.00		
440B:						
Jasper	Fair		Good		Good	
	Content of organic matter	0.18				
	Too acid	0.97				
440C2:						
Jasper	Fair		Good		Good	
	Content of organic matter	0.18				
	Too acid	0.97				
448B:						
Mona	Fair		Poor		Fair	
	Content of organic matter	0.24	Low strength	0.00	Wetness	0.98
	Carbonate content	0.97	Shrink-swell	0.83		
			Wetness	0.98		
481A:						
Raub	Fair		Poor		Fair	
	Carbonate content	0.68	Low strength	0.00	Wetness	0.14
	Too acid	0.95	Wetness	0.14		
	Water erosion	0.99	Shrink-swell	0.99		
490A:						
Odell	Fair		Fair		Fair	
	Content of organic matter	0.02	Wetness	0.14	Wetness	0.14
	Carbonate content	0.68				
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
496A:						
Fincastle-----------	Fair		Poor		Fair	
	Content of organic matter	0.32	Low strength	0.00	Wetness	0.04
	Too acid	0.46	Wetness	0.04	Too clayey	0.57
	Water erosion	0.68	Shrink-swell	0.98	Too acid	0.99
	Too clayey	0.92				
	Carbonate content	0.92				
496B2:						
Fincastle-----------	Fair		Poor		Fair	
	Content of organic matter	0.32	Low strength	0.00	Wetness	0.04
	Too acid	0.74	Wetness	0.04	Too clayey	0.57
	Water erosion	0.90	Shrink-swell	0.93		
	Too clayey	0.92				
	Carbonate content	0.92				
530C2:						
Ozaukee------------	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Content of organic matter	0.12	Wetness	0.68	Wetness	0.68
	Carbonate content	0.68				
	Water erosion	0.90				
530D2:						
Ozaukee------------	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Content of organic matter	0.12	Wetness	0.68	Wetness	0.68
					Slope	0.96
	Carbonate content	0.68				
	Water erosion	0.90				
	Too acid	0.95				
530D3:						
Ozaukee------------	Fair		Poor		Fair	
	Content of organic matter	0.12	Low strength	0.00	Wetness	0.53
			Wetness	0.53	Too clayey	0.57
	Carbonate content	0.68			Slope	0.96
	Water erosion	0.90			Rock fragments	0.97
	Too clayey	0.98				
530E2:						
Ozaukee------------	Fair		Poor		Poor	
	Too clayey	0.02	Low strength	0.00	Slope	0.00
	Content of organic matter	0.12	Wetness	0.86	Too clayey	0.01
			Slope	0.98	Wetness	0.86
	Carbonate content	0.68				
	Water erosion	0.90				
530F:						
Ozaukee------------	Fair		Poor		Poor	
	Too clayey	0.02	Low strength	0.00	Slope	0.00
	Content of organic matter	0.24	Slope	0.00	Too clayey	0.01
			Wetness	0.98	Wetness	0.98
	Carbonate content	0.68				
	Water erosion	0.90				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
530G:						
Ozaukee	Fair		Poor		Poor	
	Content of organic matter	0.12	Slope	0.00	Slope	0.00
	Carbonate content	0.68	Low strength	0.00	Too clayey	0.41
	Too clayey	0.68	Wetness	0.76	Wetness	0.76
	Water erosion	0.90				
	Too acid	0.95				
533:						
Urban land	Not rated		Not rated		Not rated	
536:						
Dumps	Not rated		Not rated		Not rated	
549G:						
Marseilles	Fair		Poor		Poor	
	Depth to bedrock	0.05	Slope	0.00	Slope	0.00
	Content of organic matter	0.12	Depth to bedrock	0.00	Depth to bedrock	0.05
	Droughty	0.25	Low strength	0.00		
	Too acid	0.74	Shrink-swell	0.94		
	Water erosion	0.90				
570B:						
Martinsville	Fair		Good		Good	
	Content of organic matter	0.12				
	Water erosion	0.37				
	Too acid	0.54				
570C2:						
Martinsville	Fair		Poor		Good	
	Content of organic matter	0.12	Low strength	0.00		
	Too acid	0.84				
570D2:						
Martinsville	Fair		Good		Fair	
	Content of organic matter	0.12			Slope	0.04
	Too acid	0.84				
570F:						
Martinsville	Fair		Poor		Poor	
	Content of organic matter	0.12	Slope	0.00	Slope	0.00
	Too acid	0.97			Too clayey	0.57
	Too clayey	0.98				
	Water erosion	0.99				
571A:						
Whitaker	Fair		Poor		Fair	
	Content of organic matter	0.88	Low strength	0.00	Wetness	0.04
	Too acid	0.97	Wetness	0.04		
			Shrink-swell	0.97		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
618C2:						
Senachwine----------	Fair		Good		Good	
	Content of organic matter	0.02				
	Carbonate content	0.68				
	Too acid	0.84				
	Water erosion	0.99				
618C3:						
Senachwine----------	Fair		Good		Good	
	Content of organic matter	0.08				
	Carbonate content	0.68				
	Too acid	0.95				
	Water erosion	0.99				
618D2:						
Senachwine----------	Fair		Good		Fair	
	Content of organic matter	0.02			Slope	0.04
	Carbonate content	0.68				
	Too acid	0.84				
	Water erosion	0.90				
618E2:						
Senachwine----------	Fair		Fair		Poor	
	Content of organic matter	0.12	Slope	0.18	Slope	0.00
					Too clayey	0.58
	Carbonate content	0.68				
	Too acid	0.97				
	Too clayey	0.98				
	Water erosion	0.99				
618F:						
Senachwine----------	Fair		Poor		Poor	
	Content of organic matter	0.02	Slope	0.00	Slope	0.00
					Too clayey	0.55
	Carbonate content	0.68				
	Too acid	0.74				
	Too clayey	0.98				
	Water erosion	0.99				
623A:						
Kishwaukee----------	Fair		Poor		Good	
	Carbonate content	0.92	Low strength	0.00		
	Too acid	0.97	Shrink-swell	0.93		
687B:						
Penfield------------	Fair		Fair		Good	
	Content of organic matter	0.68	Low strength	0.78		
			Shrink-swell	0.87		
	Too acid	0.97				
758A:						
Haskins-------------	Fair		Poor		Fair	
	Content of organic matter	0.24	Low strength	0.00	Wetness	0.01
			Wetness	0.01		
	Too acid	0.97	Shrink-swell	0.90		
	Carbonate content	0.97				
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
802B:						
Orthents, loamy-----	Fair		Fair		Good	
	Content of organic matter	0.68	Low strength	0.78		
			Shrink-swell	0.87		
	Water erosion	0.90				
802F:						
Orthents, loamy-----	Fair		Fair		Poor	
	Content of organic matter	0.68	Slope	0.32	Slope	0.00
			Low strength	0.78		
	Water erosion	0.90	Shrink-swell	0.87		
864:						
Pits, quarry--------	Not rated		Not rated		Not rated	
865:						
Pits, gravel--------	Not rated		Not rated		Not rated	
871B:						
Lenzburg------------	Fair		Poor		Fair	
	Content of organic matter	0.68	Low strength	0.00	Rock fragments	0.72
			Shrink-swell	0.87	Hard to reclaim (rock fragments)	0.88
	Water erosion	0.99				
871G:						
Lenzburg------------	Fair		Poor		Poor	
	Content of organic matter	0.50	Slope	0.00	Slope	0.00
			Low strength	0.22	Rock fragments	0.50
	Water erosion	0.99	Shrink-swell	0.87	Hard to reclaim (rock fragments)	0.88
3107A:						
Sawmill-------------	Fair		Poor		Poor	
	Too clayey	0.98	Wetness	0.00	Wetness	0.00
	Too acid	0.99	Low strength	0.00	Too clayey	0.98
			Shrink-swell	0.87		
3183A:						
Shaffton------------	Good		Poor		Fair	
			Low strength	0.00	Wetness	0.44
			Wetness	0.44		
3302A:						
Ambraw--------------	Fair		Poor		Poor	
	Content of organic matter	0.96	Wetness	0.00	Wetness	0.00
			Low strength	0.00	Too clayey	0.73
	Too clayey	0.98	Shrink-swell	0.96		
3473A:						
Rossburg------------	Fair		Good		Good	
	Content of organic matter	0.88				
7304A:						
Landes--------------	Fair		Good		Fair	
	Content of organic matter	0.12			Too sandy	0.78
	Too sandy	0.78				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8304A:						
Landes	Fair		Good		Fair	
	Content of organic matter	0.12			Too sandy	0.78
	Too sandy	0.78				
8473A:						
Rossburg	Fair		Good		Good	
	Content of organic matter	0.88				
8674A:						
Dozaville	Fair		Poor		Good	
	Water erosion	0.68	Low strength	0.00		

Table 20a.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17A:						
Keomah	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.37		
23A:						
Blount	Somewhat limited		Very limited		Very limited	
	Seepage	0.02	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.04		
23B2:						
Blount	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.01		
43A:						
Ipava	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
56B2:						
Dana	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.95	Depth to water	1.00
	Slope	0.08				
			Piping	0.01		
59A:						
Lisbon	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.19		
67A:						
Harpster	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Ponding	1.00		
68A:						
Sable	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Ponding	1.00		
69A:						
Milford	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Ponding	1.00		

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88B:						
Sparta--------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.17	Depth to water	1.00
	Slope	0.02				
91A:						
Swygert-------------	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to water	1.00
			Hard to pack	0.52		
91B2:						
Swygert-------------	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to water	1.00
			Hard to pack	0.65		
91C2:						
Swygert-------------	Somewhat limited		Very limited		Very limited	
	Slope	0.32	Depth to saturated zone	1.00	Depth to water	1.00
			Hard to pack	0.57		
102A:						
La Hogue------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	1.00		
			Seepage	0.02		
125A:						
Selma---------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
			Depth to saturated zone	1.00		
			Piping	0.78		
			Seepage	0.01		
131B:						
Alvin---------------	Very limited		Not limited		Very limited	
	Seepage	1.00			Depth to water	1.00
	Slope	0.02				
132A:						
Starks--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.90		
134B:						
Camden--------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.96	Depth to water	1.00
	Slope	0.02	Seepage	0.02		
145B2:						
Saybrook------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.93	Depth to water	1.00
	Slope	0.08	Piping	0.12		

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
146A:						
Elliott	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.41		
146B2:						
Elliott	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.43		
146C2:						
Elliott	Somewhat limited		Very limited		Very limited	
	Slope	0.32	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.37		
147A:						
Clarence	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to water	1.00
			Hard to pack	0.52		
147B2:						
Clarence	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to water	1.00
			Hard to pack	0.58		
147C2:						
Clarence	Somewhat limited		Very limited		Very limited	
	Slope	0.32	Depth to saturated zone	1.00	Depth to water	1.00
			Hard to pack	0.56		
148A:						
Proctor	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.51	Depth to water	1.00
148B:						
Proctor	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.68	Depth to water	1.00
	Slope	0.02				
148C2:						
Proctor	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.40	Depth to water	1.00
	Slope	0.98	Seepage	0.04		
149A:						
Brenton	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Cutbanks cave	0.50
					Slow refill	0.28
			Piping	0.87		
150B:						
Onarga	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.30	Depth to water	1.00
	Slope	0.02				

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
150C2:						
Onarga	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.30	Depth to water	1.00
	Slope	0.98				
152A:						
Drummer	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.03		
			Seepage	0.01		
153A:						
Pella	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Ponding	1.00		
			Piping	0.04		
154A:						
Flanagan	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.01		
171B:						
Catlin	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.75	Depth to water	1.00
	Slope	0.02				
			Piping	0.15		
182A:						
Peotone	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
					Cutbanks cave	0.10
			Ponding	1.00		
198A:						
Elburn	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.08		
			Seepage	0.05		
199B:						
Plano	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.41	Depth to water	1.00
	Slope	0.02	Seepage	0.07		
221B2:						
Parr	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.94	Depth to water	1.00
	Slope	0.02	Depth to saturated zone	0.68		
221C3:						
Parr	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.98	Piping	0.82	Depth to water	1.00
	Seepage	0.72	Depth to saturated zone	0.68		

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
223B2:						
Varna---------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.02	Depth to saturated zone	0.68	Depth to water	1.00
223C2:						
Varna---------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Depth to saturated zone	0.68	Depth to water	1.00
	Seepage	0.02				
223D2:						
Varna---------------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Depth to saturated zone	0.68	Depth to water	1.00
	Seepage	0.02				
224G:						
Strawn--------------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.83	Depth to water	1.00
	Seepage	0.04				
230A:						
Rowe----------------	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Slow refill	1.00
					Cutbanks cave	0.10
			Ponding	1.00		
			Hard to pack	0.66		
232A:						
Ashkum--------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
					Cutbanks cave	0.10
			Ponding	1.00		
233B:						
Birkbeck------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.86	Depth to water	1.00
	Slope	0.02				
			Piping	0.14		
235A:						
Bryce---------------	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
					Cutbanks cave	0.10
			Ponding	1.00		
			Hard to pack	0.31		
236A:						
Sabina--------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
238A:						
Rantoul-------------	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
					Cutbanks cave	0.10
			Ponding	1.00		
			Hard to pack	0.27		

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
241D3:						
Chatsworth----------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Depth to saturated zone	0.98	Depth to water	1.00
			Hard to pack	0.43		
242A:						
Kendall-------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.53	Cutbanks cave	0.10
291B:						
Xenia---------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
	Slope	0.02				
			Piping	0.66		
293A:						
Andres--------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.75		
294B:						
Symerton------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.88	Depth to water	1.00
	Slope	0.02	Depth to saturated zone	0.53		
295A:						
Mokena--------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.08		
330A:						
Peotone-------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
					Cutbanks cave	0.10
			Ponding	1.00		
			Hard to pack	0.33		
387B:						
Ockley--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Depth to water	1.00
	Slope	0.02	Seepage	0.13		
440A:						
Jasper--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Depth to water	1.00
			Seepage	0.05		
440B:						
Jasper--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Depth to water	1.00
	Slope	0.02	Seepage	0.05		

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
440C2:						
Jasper	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Depth to water	1.00
	Slope	0.98	Seepage	0.05		
448B:						
Mona	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.04	Depth to saturated zone	0.68	Depth to water	1.00
	Slope	0.02	Piping	0.01		
481A:						
Raub	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.67		
490A:						
Odell	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	1.00		
496A:						
Fincastle	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.68		
496B2:						
Fincastle	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
	Slope	0.02	Piping	0.47		
530C2:						
Ozaukee	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Depth to saturated zone	0.98	Depth to water	1.00
	Seepage	0.02				
530D2:						
Ozaukee	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Depth to saturated zone	0.98	Depth to water	1.00
	Seepage	0.02				
530D3:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00	Depth to water	1.00
	Seepage	0.02				
530E2:						
Ozaukee	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Depth to saturated zone	0.89	Depth to water	1.00
	Seepage	0.02				
530F:						
Ozaukee	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Depth to saturated zone	0.68	Depth to water	1.00
	Seepage	0.02				

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
530G:						
Ozaukee------------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Depth to saturated zone	0.95	Depth to water	1.00
	Seepage	0.04	Piping	0.78		
533:						
Urban land----------	Not rated		Not rated		Not rated	
536:						
Dumps---------------	Not rated		Not rated		Not rated	
549G:						
Marseilles----------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Thin layer	0.99	Depth to water	1.00
	Seepage	0.54	Piping	0.67		
	Depth to bedrock	0.34				
570B:						
Martinsville--------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Depth to water	1.00
	Slope	0.08				
570C2:						
Martinsville--------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.71	Depth to water	1.00
	Seepage	1.00				
570D2:						
Martinsville--------	Very limited		Very limited		Very limited	
	Slope	1.00	Piping	1.00	Depth to water	1.00
	Seepage	1.00				
570F:						
Martinsville--------	Very limited		Very limited		Very limited	
	Slope	1.00	Piping	1.00	Depth to water	1.00
	Seepage	1.00				
571A:						
Whitaker------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.88		
			Seepage	0.02		
618C2:						
Senachwine----------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.35	Depth to water	1.00
	Seepage	0.72				
618C3:						
Senachwine----------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.95	Depth to water	1.00
	Seepage	0.72				
618D2:						
Senachwine----------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.24	Depth to water	1.00
	Seepage	0.72				

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
618E2:						
Senachwine----------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.94	Depth to water	1.00
	Seepage	0.72				
618F:						
Senachwine----------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.37	Depth to water	1.00
	Seepage	0.72				
623A:						
Kishwaukee----------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.94	Depth to water	1.00
			Seepage	0.37		
687B:						
Penfield------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.72	Piping	0.83	Depth to saturated zone	0.99
	Slope	0.02			Cutbanks cave	0.10
758A:						
Haskins-------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.53		
802B:						
Orthents, loamy-----	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.04	Piping	0.68	Depth to water	1.00
	Slope	0.02				
802F:						
Orthents, loamy-----	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.68	Depth to water	1.00
	Seepage	0.04				
864:						
Pits, quarry--------	Not rated		Not rated		Not rated	
865:						
Pits, gravel--------	Not rated		Not rated		Not rated	
871B:						
Lenzburg------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.08	Piping	0.01	Depth to water	1.00
	Seepage	0.04				
871G:						
Lenzburg------------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.14	Depth to water	1.00
	Seepage	0.04				
3107A:						
Sawmill-------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3183A:						
Shaffton------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.83		
3302A:						
Ambraw--------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Ponding	1.00		
			Piping	0.44		
3473A:						
Rossburg------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.98	Depth to water	1.00
7304A:						
Landes--------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.76	Depth to water	1.00
8304A:						
Landes--------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.76	Depth to water	1.00
8473A:						
Rossburg------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.95	Depth to water	1.00
8674A:						
Dozaville-----------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.99	Depth to water	1.00

Table 20b.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17A:						
Keomah	Not limited		Very limited		Very limited	
			Water erosion	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00	Frost action	0.10
					Deep to water	0.01
23A:						
Blount	Not limited		Very limited		Very limited	
			Water erosion	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00	Depth to dense layer	0.29
					Frost action	0.10
					Deep to water	0.01
23B2:						
Blount	Somewhat limited		Very limited		Very limited	
	Slope	0.16	Water erosion	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00	Depth to dense layer	0.35
			Slope	0.16	Frost action	0.10
					Deep to water	0.01
43A:						
Ipava	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Restricted permeability	0.21
			Depth to saturated zone	1.00	Frost action	0.10
					Deep to water	0.03
56B2:						
Dana	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.37	Water erosion	1.00	Deep to water	0.17
			Depth to saturated zone	1.00	Frost action	0.10
			Slope	0.37	Slope	0.04
59A:						
Lisbon	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Restricted permeability	0.21
			Depth to saturated zone	1.00	Frost action	0.10
					Deep to water	0.03
					Depth to dense layer	0.01
67A:						
Harpster	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frequent ponding	0.33
			Ponding	1.00	Frost action	0.10
			Depth to saturated zone	1.00		

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
68A:						
Sable	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frequent ponding	0.33
			Ponding	1.00	Frost action	0.10
			Depth to saturated zone	1.00		
69A:						
Milford	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frequent ponding	0.33
			Ponding	1.00	Restricted permeability	0.21
			Depth to saturated zone	1.00	Frost action	0.10
88B:						
Sparta	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.26	Slope	0.26	Very deep to water	1.00
					Cutbanks cave	0.50
					Slope	0.01
91A:						
Swygert	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Restricted permeability	0.96
			Water erosion	0.88	Deep to water	0.03
91B2:						
Swygert	Somewhat limited		Very limited		Very limited	
	Slope	0.16	Depth to saturated zone	1.00	Restricted permeability	0.96
			Water erosion	0.88	Deep to water	0.03
			Slope	0.16		
91C2:						
Swygert	Somewhat limited		Very limited		Very limited	
	Slope	0.63	Depth to saturated zone	1.00	Restricted permeability	0.96
			Water erosion	0.88	Slope	0.16
			Slope	0.63	Depth to dense layer	0.06
					Deep to water	0.03
102A:						
La Hogue	Not limited		Very limited		Not limited	
			Depth to saturated zone	1.00	Deep to water	0.03
			Water erosion	0.88		
125A:						
Selma	Not limited		Very limited		Somewhat limited	
			Ponding	1.00	Frequent ponding	0.33
			Depth to saturated zone	1.00	Frost action	0.10
			Water erosion	0.88		

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
131B:						
Alvin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.26	Slope	0.26	Very deep to water	1.00
			Water erosion	0.12	Cutbanks cave	0.50
					Slope	0.01
132A:						
Starks	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00	Frost action	0.10
					Deep to water	0.01
134B:						
Camden	Somewhat limited		Very limited		Very limited	
	Slope	0.26	Water erosion	1.00	Very deep to water	1.00
			Slope	0.26	Frost action	0.10
					Slope	0.01
145B2:						
Saybrook	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.37	Water erosion	1.00	Restricted permeability	0.21
			Depth to saturated zone	1.00	Deep to water	0.19
			Slope	0.37	Frost action	0.10
					Slope	0.04
146A:						
Elliott	Not limited		Very limited		Very limited	
			Water erosion	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00	Deep to water	0.02
146B2:						
Elliott	Somewhat limited		Very limited		Very limited	
	Slope	0.16	Water erosion	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00	Depth to dense layer	0.71
			Slope	0.16	Deep to water	0.02
146C2:						
Elliott	Somewhat limited		Very limited		Very limited	
	Slope	0.63	Water erosion	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00	Depth to dense layer	0.54
			Slope	0.63	Slope	0.16
					Deep to water	0.02
147A:						
Clarence	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Restricted permeability	1.00
			Water erosion	0.88	Deep to water	0.03
					Depth to dense layer	0.01

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
147B2:						
Clarence------------	Somewhat limited		Very limited		Very limited	
	Slope	0.16	Depth to saturated zone	1.00	Restricted permeability	1.00
			Water erosion	0.88	Depth to dense layer	0.10
			Slope	0.16	Deep to water	0.03
147C2:						
Clarence------------	Somewhat limited		Very limited		Very limited	
	Slope	0.63	Depth to saturated zone	1.00	Restricted permeability	1.00
			Water erosion	0.88	Depth to dense layer	0.65
			Slope	0.63	Slope	0.16
					Deep to water	0.03
148A:						
Proctor-------------	Not limited		Very limited		Very limited	
			Water erosion	1.00	Very deep to water	1.00
					Frost action	0.10
148B:						
Proctor-------------	Somewhat limited		Very limited		Very limited	
	Slope	0.26	Water erosion	1.00	Very deep to water	1.00
			Slope	0.26	Frost action	0.10
					Slope	0.01
148C2:						
Proctor-------------	Somewhat limited		Very limited		Very limited	
	Slope	0.99	Water erosion	1.00	Very deep to water	1.00
			Slope	0.99	Slope	0.74
					Frost action	0.10
149A:						
Brenton-------------	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frost action	0.10
			Depth to saturated zone	1.00	Deep to water	0.03
150B:						
Onarga--------------	Somewhat limited		Very limited		Very limited	
	Slope	0.26	Too sandy	1.00	Very deep to water	1.00
			Slope	0.26	Depth to dense layer	0.54
			Water erosion	0.12	Cutbanks cave	0.50
					Slope	0.01
150C2:						
Onarga--------------	Somewhat limited		Very limited		Very limited	
	Slope	0.99	Too sandy	1.00	Very deep to water	1.00
			Slope	0.99	Slope	0.74
			Water erosion	0.12	Depth to dense layer	0.71
					Cutbanks cave	0.50

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
152A:						
Drummer	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frequent ponding	0.33
			Ponding	1.00	Frost action	0.10
			Depth to saturated zone	1.00		
153A:						
Pella	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frequent ponding	0.33
			Ponding	1.00	Frost action	0.10
			Depth to saturated zone	1.00		
154A:						
Flanagan	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Restricted permeability	0.21
			Depth to saturated zone	1.00	Frost action	0.10
					Deep to water	0.03
171B:						
Catlin	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.26	Water erosion	1.00	Deep to water	0.32
			Depth to saturated zone	1.00	Frost action	0.10
			Slope	0.26	Slope	0.01
182A:						
Peotone	Not limited		Very limited		Somewhat limited	
			Ponding	1.00	Frequent ponding	0.47
			Depth to saturated zone	1.00	Restricted permeability	0.43
			Water erosion	0.50	Frost action	0.10
198A:						
Elburn	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frost action	0.10
			Depth to saturated zone	1.00	Deep to water	0.03
199B:						
Plano	Somewhat limited		Very limited		Very limited	
	Slope	0.26	Water erosion	1.00	Very deep to water	1.00
			Slope	0.26	Frost action	0.10
					Slope	0.01
221B2:						
Parr	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.26	Depth to saturated zone	1.00	Deep to water	0.37
			Water erosion	0.88	Restricted permeability	0.21
			Slope	0.26	Depth to dense layer	0.16
					Slope	0.01

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
221C3:						
Parr----------------	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.99	Depth to saturated zone	1.00	Slope	0.74
					Deep to water	0.37
			Slope	0.99	Restricted permeability	0.21
			Water erosion	0.88		
					Depth to dense layer	0.03
223B2:						
Varna---------------	Somewhat limited		Very limited		Very limited	
	Slope	0.16	Water erosion	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00		
					Deep to water	0.37
			Slope	0.16	Depth to dense layer	0.01
223C2:						
Varna---------------	Somewhat limited		Very limited		Very limited	
	Slope	0.63	Water erosion	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00		
					Deep to water	0.37
			Slope	0.63	Slope	0.16
223D2:						
Varna---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	0.96
			Depth to saturated zone	1.00	Restricted permeability	0.96
			Slope	1.00	Deep to water	0.37
					Depth to dense layer	0.06
224G:						
Strawn--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
			Slope	1.00	Very deep to water	1.00
					Restricted permeability	0.21
230A:						
Rowe----------------	Not limited		Very limited		Very limited	
			Ponding	1.00	Restricted permeability	1.00
			Depth to saturated zone	1.00		
					Frequent ponding	0.33
			Water erosion	0.88	Frost action	0.10
232A:						
Ashkum--------------	Not limited		Very limited		Somewhat limited	
			Ponding	1.00	Frequent ponding	0.33
			Depth to saturated zone	1.00	Restricted permeability	0.21
			Water erosion	0.88	Frost action	0.10

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
233B:						
Birkbeck------------	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.26	Water erosion	1.00	Deep to water	0.25
			Depth to saturated zone	1.00	Frost action	0.10
			Slope	0.26	Slope	0.01
235A:						
Bryce---------------	Not limited		Very limited		Very limited	
			Ponding	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00	Frequent ponding	0.33
			Water erosion	0.88	Frost action	0.10
236A:						
Sabina--------------	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Restricted permeability	0.21
			Depth to saturated zone	1.00	Frost action	0.10
					Deep to water	0.01
238A:						
Rantoul-------------	Not limited		Very limited		Very limited	
			Ponding	1.00	Restricted permeability	1.00
			Depth to saturated zone	1.00	Frequent ponding	0.47
			Water erosion	0.88	Frost action	0.10
241D3:						
Chatsworth----------	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Restricted permeability	1.00
			Depth to saturated zone	1.00	Depth to dense layer	0.97
			Slope	1.00	Slope	0.96
					Deep to water	0.14
242A:						
Kendall-------------	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frost action	0.10
			Depth to saturated zone	1.00	Deep to water	0.01
291B:						
Xenia---------------	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.26	Water erosion	1.00	Deep to water	0.11
			Depth to saturated zone	1.00	Frost action	0.10
			Slope	0.26	Slope	0.01
293A:						
Andres--------------	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Restricted permeability	0.21
			Water erosion	0.88	Deep to water	0.03

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
294B:						
Symerton------------	Somewhat limited		Very limited		Very limited	
	Slope	0.26	Depth to saturated zone	1.00	Restricted permeability	0.96
			Water erosion	0.50	Deep to water	0.48
			Slope	0.26	Slope	0.01
295A:						
Mokena--------------	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Restricted permeability	0.96
			Water erosion	0.88	Deep to water	0.03
330A:						
Peotone-------------	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frequent ponding	0.47
			Ponding	1.00	Restricted permeability	0.21
			Depth to saturated zone	1.00	Frost action	0.10
387B:						
Ockley--------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.26	Water erosion	0.88	Very deep to water	1.00
			Slope	0.26	Slope	0.01
440A:						
Jasper--------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Water erosion	0.88	Very deep to water	1.00
			Slope	0.01		
440B:						
Jasper--------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.26	Water erosion	0.88	Very deep to water	1.00
			Slope	0.26	Slope	0.01
440C2:						
Jasper--------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.99	Slope	0.99	Very deep to water	1.00
			Water erosion	0.88	Slope	0.74
448B:						
Mona----------------	Somewhat limited		Very limited		Very limited	
	Slope	0.26	Depth to saturated zone	1.00	Restricted permeability	0.96
			Water erosion	0.88	Deep to water	0.37
			Slope	0.26	Slope	0.01
481A:						
Raub----------------	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frost action	0.10
			Depth to saturated zone	1.00	Deep to water	0.03

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
490A:						
Odell	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Depth to dense layer	0.80
			Water erosion	0.88	Restricted permeability	0.21
					Deep to water	0.03
496A:						
Fincastle	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Frost action	0.10
			Depth to saturated zone	1.00	Deep to water	0.01
496B2:						
Fincastle	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.26	Water erosion	1.00	Frost action	0.10
			Depth to saturated zone	1.00	Deep to water	0.01
					Slope	0.01
			Slope	0.26		
530C2:						
Ozaukee	Somewhat limited		Very limited		Very limited	
	Slope	0.63	Water erosion	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00	Depth to dense layer	0.65
			Slope	0.63		
					Slope	0.16
					Deep to water	0.14
530D2:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	0.96
			Depth to saturated zone	1.00	Restricted permeability	0.96
			Slope	1.00	Depth to dense layer	0.65
					Deep to water	0.14
530D3:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	0.96
			Depth to saturated zone	1.00	Restricted permeability	0.96
			Slope	1.00	Depth to dense layer	0.84
					Deep to water	0.11
530E2:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
			Slope	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00	Depth to dense layer	0.35
					Deep to water	0.22

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Tile drains and underground outlets: Rating class and limiting features	Value
530F:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
			Slope	1.00	Restricted permeability	0.96
			Depth to saturated zone	1.00	Deep to water	0.37
					Depth to dense layer	0.06
530G:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
			Slope	1.00	Depth to dense layer	0.54
			Depth to saturated zone	1.00	Restricted permeability	0.43
					Deep to water	0.17
					Frost action	0.10
533:						
Urban land	Not rated		Not rated		Not rated	
536:						
Dumps	Not rated		Not rated		Not rated	
549G:						
Marseilles	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Depth to soft bedrock	0.95	Slope	1.00	Very deep to water	1.00
			Depth to soft bedrock	0.95	Depth to bedrock	0.35
					Frost action	0.10
570B:						
Martinsville	Somewhat limited		Very limited		Very limited	
	Slope	0.37	Water erosion	1.00	Very deep to water	1.00
			Slope	0.37	Slope	0.04
570C2:						
Martinsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Very deep to water	1.00
			Water erosion	0.88	Slope	0.84
570D2:						
Martinsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Water erosion	0.88	Very deep to water	1.00
570F:						
Martinsville	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
			Slope	1.00	Very deep to water	1.00

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
571A:						
Whitaker------------	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Frost action	0.10
					Deep to water	0.01
			Water erosion	0.88		
618C2:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Very deep to water	1.00
			Water erosion	0.88		
					Slope	0.84
					Depth to dense layer	0.71
					Restricted permeability	0.21
618C3:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Very deep to water	1.00
			Water erosion	0.88		
					Slope	0.84
					Restricted permeability	0.21
					Depth to dense layer	0.20
618D2:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
			Slope	1.00	Very deep to water	1.00
					Restricted permeability	0.21
					Depth to dense layer	0.16
618E2:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Water erosion	0.88	Very deep to water	1.00
					Restricted permeability	0.21
					Depth to dense layer	0.16
618F:						
Senachwine----------	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
			Slope	1.00	Very deep to water	1.00
623A:						
Kishwaukee----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Water erosion	0.88	Very deep to water	1.00
			Slope	0.01		

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
687B:						
Penfield	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.26	Water erosion	0.88	Very deep to water	1.00
			Slope	0.26	Slope	0.01
758A:						
Haskins	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Restricted permeability	0.21
			Depth to saturated zone	1.00	Frost action	0.10
					Deep to water	0.01
802B:						
Orthents, loamy	Somewhat limited		Very limited		Very limited	
	Slope	0.26	Water erosion	1.00	Very deep to water	1.00
			Slope	0.26	Restricted permeability	0.21
					Slope	0.01
802F:						
Orthents, loamy	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
			Slope	1.00	Very deep to water	1.00
					Restricted permeability	0.21
864:						
Pits, quarry	Not rated		Not rated		Not rated	
865:						
Pits, gravel	Not rated		Not rated		Not rated	
871B:						
Lenzburg	Somewhat limited		Very limited		Very limited	
	Slope	0.37	Water erosion	1.00	Very deep to water	1.00
	Content of large stones	0.10	Slope	0.37	Restricted permeability	0.21
			Content of large stones	0.10	Slope	0.04
871G:						
Lenzburg	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Content of large stones	0.67	Slope	1.00	Very deep to water	1.00
			Content of large stones	0.67	Restricted permeability	0.21
3107A:						
Sawmill	Not limited		Very limited		Somewhat limited	
			Ponding	1.00	Frequent flooding	0.35
			Depth to saturated zone	1.00	Frequent ponding	0.33
			Water erosion	0.50	Frost action	0.10

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3183A:						
Shaffton------------	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Frequent flooding	0.35
			Water erosion	0.88	Deep to water	0.09
3302A:						
Ambraw--------------	Not limited		Very limited		Somewhat limited	
			Ponding	1.00	Frequent flooding	0.35
			Depth to saturated zone	1.00	Frequent ponding	0.33
			Water erosion	0.50	Frost action	0.10
3473A:						
Rossburg------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Water erosion	0.88	Very deep to water	1.00
			Slope	0.01	Frequent flooding	0.35
7304A:						
Landes--------------	Somewhat limited		Very limited		Very limited	
	Slope	0.01	Too sandy	1.00	Very deep to water	1.00
			Water erosion	0.12	Cutbanks cave	0.50
			Slope	0.01	Rare flooding	0.05
8304A:						
Landes--------------	Somewhat limited		Very limited		Very limited	
	Slope	0.01	Too sandy	1.00	Very deep to water	1.00
			Water erosion	0.12	Cutbanks cave	0.50
			Slope	0.01	Occasional flooding	0.10
8473A:						
Rossburg------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Water erosion	0.88	Very deep to water	1.00
			Slope	0.01	Occasional flooding	0.10
8674A:						
Dozaville-----------	Not limited		Very limited		Very limited	
			Water erosion	1.00	Very deep to water	1.00
					Occasional flooding	0.10
					Frost action	0.10

Table 20c.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
17A:				
Keomah	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Drains slowly	0.30		
23A:				
Blount	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Drains slowly	0.29		
23B2:				
Blount	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00		
	Drains slowly	0.29		
43A:				
Ipava	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
56B2:				
Dana	Very limited		Not limited	
	Slope	1.00		
	Depth to saturated zone	0.82		
	Water erosion	0.12		
59A:				
Lisbon	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
67A:				
Harpster	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
68A:				
Sable	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
69A:				
Milford	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 20c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
88B:				
Sparta	Very limited		Not limited	
	Wind erosion	1.00		
	Slope	1.00		
	Low water-holding capacity	0.22		
91A:				
Swygert	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Drains slowly	0.29		
91B2:				
Swygert	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00		
	Drains slowly	0.29		
91C2:				
Swygert	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00		
	Drains slowly	0.98		
	Water erosion	0.02		
102A:				
La Hogue	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
125A:				
Selma	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
131B:				
Alvin	Very limited		Not limited	
	Wind erosion	1.00		
	Slope	1.00		
132A:				
Starks	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
134B:				
Camden	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.13		
145B2:				
Saybrook	Very limited		Not limited	
	Slope	1.00		
	Depth to saturated zone	0.73		
	Water erosion	0.12		

Table 20c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
146A:				
Elliott	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Drains slowly	0.29		
146B2:				
Elliott	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00		
	Drains slowly	0.29		
146C2:				
Elliott	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00		
	Drains slowly	0.29		
	Water erosion	0.02		
147A:				
Clarence	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Drains slowly	0.99		
	Low water-holding capacity	0.06		
147B2:				
Clarence	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00		
	Drains slowly	0.99		
	Low water-holding capacity	0.22		
147C2:				
Clarence	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00		
	Drains slowly	0.99		
	Low water-holding capacity	0.27		
	Water erosion	0.02		
148A:				
Proctor	Not limited		Not limited	
148B:				
Proctor	Very limited		Not limited	
	Slope	1.00		
148C2:				
Proctor	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.97		

Table 20c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
149A:				
Brenton	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
150B:				
Onarga	Very limited		Not limited	
	Wind erosion	1.00		
	Slope	1.00		
150C2:				
Onarga	Very limited		Not limited	
	Wind erosion	1.00		
	Slope	1.00		
	Water erosion	0.12		
152A:				
Drummer	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
153A:				
Pella	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
154A:				
Flanagan	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
171B:				
Catlin	Very limited		Not limited	
	Slope	1.00		
	Depth to saturated zone	0.18		
182A:				
Peotone	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
198A:				
Elburn	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
199B:				
Plano	Very limited		Not limited	
	Slope	1.00		
221B2:				
Parr	Very limited		Not limited	
	Slope	1.00		
	Depth to saturated zone	0.08		

Table 20c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
221C3:				
Parr	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.82		
	Depth to saturated zone	0.08		
223B2:				
Varna	Very limited		Not limited	
	Slope	1.00		
	Drains slowly	0.29		
	Depth to saturated zone	0.08		
223C2:				
Varna	Very limited		Not limited	
	Slope	1.00		
	Drains slowly	0.29		
	Depth to saturated zone	0.08		
	Water erosion	0.08		
223D2:				
Varna	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.88		
	Drains slowly	0.29		
	Depth to saturated zone	0.08		
224G:				
Strawn	Very limited		Not limited	
	Slope	1.00		
	Water erosion	1.00		
230A:				
Rowe	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Drains slowly	0.99	Percs slowly	1.00
232A:				
Ashkum	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
233B:				
Birkbeck	Very limited		Not limited	
	Slope	1.00		
	Depth to saturated zone	0.44		
	Water erosion	0.13		
	Too acid	0.08		

Table 20c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
235A:				
Bryce---------------	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Drains slowly	0.29		
	Low water-holding capacity	0.01		
236A:				
Sabina--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
238A:				
Rantoul-------------	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Drains slowly	0.98		
241D3:				
Chatsworth----------	Very limited		Very limited	
	Slope	1.00	Percs slowly	1.00
	Low water-holding capacity	0.99		
	Water erosion	0.99		
	Drains slowly	0.98		
	Depth to saturated zone	0.92		
242A:				
Kendall-------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
291B:				
Xenia---------------	Very limited		Not limited	
	Slope	1.00		
	Depth to saturated zone	0.99		
	Water erosion	0.13		
293A:				
Andres--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
294B:				
Symerton------------	Very limited		Not limited	
	Slope	1.00		
	Drains slowly	0.29		
	Depth to saturated zone	0.01		
295A:				
Mokena--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Drains slowly	0.29		

Table 20c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
330A:				
Peotone------------	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
387B:				
Ockley-------------	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.01		
440A:				
Jasper-------------	Somewhat limited		Not limited	
	Slope	0.01		
440B:				
Jasper-------------	Very limited		Not limited	
	Slope	1.00		
440C2:				
Jasper-------------	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.60		
448B:				
Mona---------------	Very limited		Not limited	
	Slope	1.00		
	Drains slowly	0.29		
	Depth to saturated zone	0.08		
481A:				
Raub---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
490A:				
Odell--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
496A:				
Fincastle----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
496B2:				
Fincastle----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00		
	Water erosion	0.13		
530C2:				
Ozaukee------------	Very limited		Not limited	
	Slope	1.00		
	Depth to saturated zone	0.92		
	Drains slowly	0.29		
	Water erosion	0.18		

Table 20c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation: Rating class and limiting features	Value	Drip or trickle irrigation: Rating class and limiting features	Value
530D2:				
Ozaukee	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.99		
	Depth to saturated zone	0.92		
	Drains slowly	0.29		
530D3:				
Ozaukee	Very limited		Not limited	
	Water erosion	1.00		
	Slope	1.00		
	Depth to saturated zone	0.99		
	Drains slowly	0.29		
530E2:				
Ozaukee	Very limited		Not limited	
	Water erosion	1.00		
	Slope	1.00		
	Depth to saturated zone	0.56		
	Drains slowly	0.29		
530F:				
Ozaukee	Very limited		Not limited	
	Slope	1.00		
	Water erosion	1.00		
	Drains slowly	0.29		
	Depth to saturated zone	0.08		
530G:				
Ozaukee	Very limited		Not limited	
	Slope	1.00		
	Water erosion	1.00		
	Depth to saturated zone	0.82		
	Drains slowly	0.29		
533:				
Urban land	Not rated		Not rated	
536:				
Dumps	Not rated		Not rated	
549G:				
Marseilles	Very limited		Not limited	
	Depth to soft bedrock	1.00		
	Slope	1.00		
	Water erosion	1.00		
	Low water-holding capacity	0.14		
570B:				
Martinsville	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.12		

Table 20c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
570C2:				
Martinsville--------	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.90		
570D2:				
Martinsville--------	Very limited		Not limited	
	Water erosion	1.00		
	Slope	1.00		
570F:				
Martinsville--------	Very limited		Not limited	
	Slope	1.00		
	Water erosion	1.00		
571A:				
Whitaker------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
618C2:				
Senachwine----------	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.90		
618C3:				
Senachwine----------	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.90		
618D2:				
Senachwine----------	Very limited		Not limited	
	Water erosion	1.00		
	Slope	1.00		
618E2:				
Senachwine----------	Very limited		Not limited	
	Slope	1.00		
	Water erosion	1.00		
618F:				
Senachwine----------	Very limited		Not limited	
	Slope	1.00		
	Water erosion	1.00		
623A:				
Kishwaukee----------	Somewhat limited		Not limited	
	Slope	0.01		
687B:				
Penfield------------	Very limited		Not limited	
	Slope	1.00		
758A:				
Haskins-------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 20c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
802B:				
Orthents, loamy-----	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.13		
802F:				
Orthents, loamy-----	Very limited		Not limited	
	Water erosion	1.00		
	Slope	1.00		
864:				
Pits, quarry--------	Not rated		Not rated	
865:				
Pits, gravel--------	Not rated		Not rated	
871B:				
Lenzburg-----------	Very limited		Not limited	
	Slope	1.00		
	Water erosion	0.04		
871G:				
Lenzburg-----------	Very limited		Not limited	
	Slope	1.00		
	Water erosion	1.00		
3107A:				
Sawmill------------	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Frequent or very frequent flooding	0.70	Depth to saturated zone	1.00
3183A:				
Shaffton-----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
	Frequent or very frequent flooding	0.70	Depth to saturated zone	1.00
3302A:				
Ambraw-------------	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Frequent or very frequent flooding	0.70	Depth to saturated zone	1.00
3473A:				
Rossburg-----------	Somewhat limited		Very limited	
	Frequent or very frequent flooding	0.70	Flooding	1.00
	Slope	0.01		

Table 20c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value
7304A:				
Landes	Very limited		Not limited	
	Wind erosion	1.00		
	Slope	0.01		
8304A:				
Landes	Very limited		Not limited	
	Wind erosion	1.00		
	Occasional flooding	0.40		
	Slope	0.01		
8473A:				
Rossburg	Somewhat limited		Not limited	
	Occasional flooding	0.40		
	Slope	0.01		
8674A:				
Dozaville	Somewhat limited		Not limited	
	Occasional flooding	0.40		

Table 21.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
17A:												
Keomah----------	0-11	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	10-15
	11-18	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	10-20
	18-33	Silty clay, silty clay loam	CL, CH	A-7-6	0	0	100	100	100	95-100	45-55	25-30
	33-51	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-45	15-25
	51-89	Silt loam	ML, CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
23A:												
Blount----------	0-7	Silt loam	CL, ML	A-4, A-6	0	0-5	95-100	95-100	90-100	80-95	25-40	8-20
	7-13	Silt loam	CL	A-4, A-6	0	0-5	95-100	95-100	90-100	80-95	20-35	8-18
	13-26	Silty clay loam, silty clay, clay loam	CL, CH	A-6, A-7-6	0-1	0-5	95-100	85-98	75-97	65-95	35-60	15-35
	26-32	Silty clay loam, clay loam, silty clay	ML, CH, CL, MH	A-6, A-7-6	0-1	0-5	95-100	80-95	70-93	60-90	35-55	10-30
	32-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-10	90-100	80-93	70-92	60-90	30-50	10-25
23B2:												
Blount----------	0-4	Silt loam	CL, ML	A-4, A-6	0	0-5	95-100	95-100	90-100	80-95	25-40	8-20
	4-16	Silty clay loam, silty clay, clay loam	CL, CH	A-6, A-7-6	0-1	0-5	95-100	85-98	75-97	65-95	35-60	15-35
	16-31	Silty clay loam, clay loam, silty clay	CH, CL, ML, MH	A-6, A-7-6	0-1	0-5	95-100	80-95	70-93	60-90	35-55	10-30
	31-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-10	90-100	80-93	70-92	60-90	30-50	10-25

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
43A:												
Ipava-----------	0-10	Silt loam	CL	A-7-5, A-7-6, A-6	0	0	100	100	97-100	95-100	32-47	9-18
	10-18	Silty clay loam	CL	A-7-6, A-7-5	0	0	100	100	97-100	95-100	40-52	19-25
	18-31	Silty clay loam, silty clay	CH, CL	A-7-6, A-7-5	0	0	100	100	97-100	95-100	46-58	25-33
	31-50	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	19-25
	50-60	Silt loam	CL	A-6	0	0	100	100	96-100	93-100	24-38	9-19
56B2:												
Dana------------	0-7	Silt loam	CL, ML	A-7-5, A-7-6, A-6	0	0	100	97-100	95-100	85-100	32-44	13-18
	7-34	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	85-100	38-48	19-25
	34-53	Clay loam	CL	A-7-6, A-6	0	0	95-100	85-98	75-95	55-80	37-46	19-25
	53-60	Loam	CL, CL-ML, SC, SC-SM	A-6	0-1	0-3	85-100	80-95	70-90	45-70	24-38	9-19
59A:												
Lisbon----------	0-11	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-20
	11-36	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	95-100	95-100	85-100	30-50	15-30
	36-39	Loam, clay loam	CL, ML	A-4, A-6, A-7-6	0	0-2	95-100	85-100	75-90	60-80	20-45	8-25
	39-70	Loam, sandy loam	CL, ML, SC	A-4, A-6	0	0-3	90-100	80-98	65-85	45-75	20-40	8-20
67A:												
Harpster--------	0-18	Silty clay loam	ML, MH	A-7-6, A-7-5	0	0	100	97-100	95-100	85-100	44-57	18-24
	18-41	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	85-100	38-48	19-25
	41-56	Silt loam	CL	A-6	0	0	100	97-100	85-100	75-100	26-39	9-19
	56-60	Loam, silt loam	CL	A-6	0	0	100	95-100	80-95	50-75	25-38	9-19
68A:												
Sable-----------	0-19	Silty clay loam	CH, CL	A-6, A-7-6	0	0	100	100	98-100	95-100	30-55	15-30
	19-23	Silty clay loam	CH, CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-60	15-35
	23-47	Silty clay loam, silt loam	CH, CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-55	15-35
	47-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	98-100	95-100	25-40	10-20

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
69A:												
Milford---------	0-9	Silty clay loam	MH, CL, CH	A-7-6, A-6	0	0	100	95-100	90-100	80-95	40-55	20-30
	9-22	Silty clay	MH, CL, CH	A-7-6	0	0	100	95-100	90-100	80-95	45-60	25-35
	22-50	Silty clay loam, clay loam, silty clay	CL, CH, MH	A-7-6, A-6	0	0	100	95-100	90-100	75-100	40-60	20-40
	50-60	Stratified sandy loam to silty clay loam	CL, SC, ML	A-6, A-7-6, A-4	0	0	95-100	95-100	90-100	45-100	25-50	10-30
88B:												
Sparta----------	0-13	Loamy fine sand	SM	A-2-4	0	0	90-100	85-100	60-95	20-30	2-18	NP-4
	13-71	Loamy fine sand, loamy sand, fine sand	SM	A-2-4	0	0	90-100	85-100	60-95	15-30	0-14	NP
	71-80	Stratified sand to loamy fine sand	SM, SP-SM	A-2-4, A-3	0	0	90-100	85-100	50-95	5-25	0-18	NP-4
91A:												
Swygert---------	0-12	Silty clay loam	CL, ML, MH	A-7-5, A-7-6	0	0	100	98-100	95-100	85-98	43-55	18-25
	12-26	Silty clay, clay	CH	A-7-6	0	0	100	98-100	95-100	85-98	50-67	29-40
	26-51	Silty clay, clay	CH	A-7-6	0	0-2	97-100	90-100	85-100	75-95	50-62	29-36
	51-60	Silty clay, clay, silty clay loam	CL, CH	A-7-6	0	0-3	95-100	85-100	80-100	70-95	46-63	27-40
91B2:												
Swygert---------	0-7	Silty clay loam	CL, CH, MH	A-7-6, A-7-5	0	0	100	98-100	95-100	85-98	43-56	21-27
	7-30	Silty clay, clay	CH	A-7-6	0	0	100	98-100	95-100	85-98	50-67	29-40
	30-48	Silty clay, clay	CH	A-7-6	0	0-2	97-100	90-100	85-100	75-95	50-62	29-36
	48-60	Silty clay, clay, silty clay loam	CL, CH	A-7-6	0	0-3	95-100	85-100	80-100	70-95	46-63	27-40

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
91C2:												
Swygert---------	0-7	Silty clay loam	CL, CH, MH	A-7-5, A-7-6	0	0	100	98-100	95-100	85-98	43-56	21-27
	7-18	Silty clay, clay	CH	A-7-6	0	0	100	98-100	95-100	85-98	50-67	29-40
	18-36	Silty clay, clay	CH	A-7-6	0	0-2	97-100	90-100	85-100	75-95	50-62	29-36
	36-60	Silty clay, clay, silty clay loam	CL, CH	A-7-6	0	0-3	95-100	85-100	80-100	70-95	46-63	27-40
102A:												
La Hogue--------	0-16	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	80-100	55-80	20-35	5-15
	16-32	Sandy clay loam, loam, clay loam	CL, ML, SC, SM	A-4, A-6	0	0	100	95-100	80-100	40-85	25-40	8-20
	32-48	Sandy loam, loam	SC, SC-SM, SM, CL, ML	A-2-4, A-2-6, A-4, A-6	0	0	100	90-100	65-90	25-70	20-30	2-15
	48-60	Stratified loamy sand to silt loam	SC, SC-SM, SM, CL-ML, ML	A-2-4, A-4	0	0	95-100	80-100	50-90	15-70	18-25	NP-10
125A:												
Selma-----------	0-6	Loam	CL, ML	A-6, A-7-5, A-7-6	0	0	100	95-100	80-100	55-85	37-49	13-18
	6-13	Clay loam	CL, ML, MH	A-7-5, A-7-6	0	0	100	95-100	85-100	65-85	43-55	18-25
	13-44	Loam, silty clay loam, sandy loam, clay loam	CL, SC	A-6, A-7-6	0	0	100	85-100	80-95	38-85	29-47	12-23
	44-80	Stratified sand to silt loam	SC-SM, SC, SP-SM, CL, CL-ML	A-4, A-2-4, A-6, A-2-6	0	0	90-100	80-100	60-90	10-70	18-31	3-12
131B:												
Alvin-----------	0-8	Fine sandy loam	SM, SC-SM	A-4, A-2-4	0	0	100	100	80-95	35-50	15-25	NP-4
	8-11	Fine sandy loam, sandy loam, loamy fine sand	SM, SC-SM	A-4, A-2-4	0	0	100	100	70-95	30-50	15-25	NP-4
	11-25	Fine sandy loam, sandy loam, loam	SC, SM, CL	A-4, A-2-4, A-6	0	0	100	95-100	65-100	30-55	15-40	NP-15
	25-80	Very fine sand, fine sandy loam, loamy fine sand	SM, SP-SM, SC-SM	A-3, A-2-4, A-4	0	0	95-100	95-100	55-95	10-45	15-20	NP-4

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
132A:												
Starks----------	0-10	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	85-100	20-35	5-15
	10-14	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	85-100	20-35	5-15
	14-31	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	85-100	30-45	10-25
	31-43	Clay loam, silt loam, sandy loam	CL, SC, ML, SM	A-6, A-4	0	0	95-100	90-100	70-95	40-85	25-40	8-20
	43-60	Stratified loamy sand to clay loam	SC, CL, SC-SM, SM	A-2-4, A-4, A-6, A-2-6	0-1	0-5	90-100	80-100	55-90	15-80	5-30	NP-15
134B:												
Camden----------	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	5-15
	9-14	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	5-15
	14-35	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	15-25
	35-62	Clay loam, loam, sandy loam	CL, SC, ML, CL-ML, SM	A-2-4, A-4, A-6	0	0-1	90-100	85-100	60-95	30-85	20-40	5-15
	62-80	Stratified silt loam to loamy sand	SM, SC, SC-SM, ML	A-2-4, A-4	0	0-3	85-100	80-98	50-90	15-75	5-25	NP-10
145B2:												
Saybrook--------	0-8	Silt loam	CL, ML	A-6, A-7-6	0	0	100	97-100	95-100	85-100	32-44	13-18
	8-28	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	97-100	95-100	85-100	36-48	17-25
	28-31	Clay loam	CL	A-6, A-7-6	0	0	90-100	85-100	75-95	55-85	37-46	19-25
	31-60	Loam	CL, SC	A-6	0-1	0-3	85-100	80-95	70-90	45-70	29-38	13-19
146A:												
Elliott---------	0-6	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	29-37	7-15
	6-11	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	85-100	40-46	15-19
	11-16	Silty clay	CL, CH	A-7-6	0	0	100	95-100	90-100	85-100	42-56	18-30
	16-41	Silty clay loam	CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	41-60	Silty clay loam	CL	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17
146B2:												
Elliott---------	0-8	Silty clay loam	CL, ML	A-7-6	0	0	100	100	95-100	85-100	40-46	15-19
	8-14	Silty clay loam, silty clay	CL, CH, MH	A-7-6	0	0	100	95-100	90-100	85-100	40-52	15-28
	14-27	Silty clay loam	CL, ML	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	27-60	Silty clay loam	CL, ML	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
146C2:												
Elliott---------	0-8	Silty clay loam	ML, CL	A-7-6	0	0	100	100	95-100	85-100	40-46	15-19
	8-17	Silty clay loam, silty clay	CH, MH, CL	A-7-6	0	0	100	95-100	90-100	85-100	40-52	15-28
	17-29	Silty clay loam	ML, CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	29-60	Silty clay loam	CL, ML	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17
147A:												
Clarence--------	0-11	Silty clay loam	CL	A-6, A-7-6	0	0	95-100	95-100	90-100	85-100	30-45	15-25
	11-39	Silty clay, clay	MH, CH	A-7-6	0	0-5	95-100	95-100	90-100	85-100	50-65	25-40
	39-60	Silty clay, clay	MH, CH, CL	A-7-6	0	0-5	95-100	95-100	90-100	85-100	45-65	25-40
147B2:												
Clarence--------	0-8	Silty clay loam	CL	A-6, A-7-6	0	0	95-100	95-100	90-100	85-100	30-45	15-25
	8-35	Silty clay, clay	CH, MH	A-7-6	0	0-5	95-100	95-100	90-100	85-100	50-65	25-40
	35-60	Silty clay, clay	CH, CL, MH	A-7-6	0	0-5	95-100	95-100	90-100	85-100	45-65	25-40
147C2:												
Clarence--------	0-9	Silty clay loam	CL	A-6, A-7-6	0	0	95-100	95-100	90-100	85-100	30-45	15-25
	9-28	Silty clay, clay	CH, MH	A-7-6	0	0-5	95-100	95-100	90-100	85-100	50-65	25-40
	28-60	Silty clay, clay	CH, CL, MH	A-7-6	0	0-5	95-100	95-100	90-100	85-100	45-65	25-40
148A:												
Proctor---------	0-11	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	11-31	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	25-50	10-25
	31-38	Loam, clay loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2-6, A-4, A-6, A-7-6	0	0	90-100	85-100	75-100	30-85	20-45	5-25
	38-60	Stratified loam to loamy sand	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2-4, A-2-6	0	0	85-100	80-100	50-100	15-85	20-40	5-20

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
148B:												
Proctor---------	0-11	Silt loam	CL, ML	A-6, A-7-5, A-7-6	0	0	100	100	95-100	90-100	33-45	11-18
	11-28	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	36-49	17-25
	28-33	Loam, clay loam, sandy loam	CL, SC	A-6, A-7-6	0	0	98-100	95-100	80-100	35-80	29-43	12-21
	33-60	Stratified loam to loamy sand	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2-4, A-2-6	0	0	95-100	90-100	55-95	15-75	16-32	2-13
148C2:												
Proctor---------	0-8	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	10-20
	8-32	Silty clay loam, silt loam	CL	A-6, A-7-6, A-4	0	0	95-100	90-100	85-100	85-100	25-50	10-25
	32-48	Clay loam, sandy loam, loam	CL, CL-ML, SC, SC-SM	A-2-4, A-4, A-6, A-7-6, A-2-6	0	0	90-100	85-100	75-100	30-80	20-45	5-25
	48-60	Stratified loam to sandy loam	CL-ML, SC, SC-SM, CL	A-2-4, A-4, A-6, A-2-6	0	0	85-100	80-100	50-100	25-80	20-40	5-20
149A:												
Brenton---------	0-14	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	97-100	95-100	85-100	25-35	5-15
	14-33	Silty clay loam	CL	A-6, A-7-6	0	0	100	97-100	95-100	85-100	35-45	15-24
	33-45	Stratified loam to fine sandy loam	CL	A-6, A-4	0	0	95-100	90-100	75-95	50-70	25-38	9-19
	45-80	Stratified silt to fine sandy loam	CL-ML, CL	A-6, A-4	0	0	95-100	90-100	75-95	50-85	20-38	6-19
150B:												
Onarga----------	0-13	Fine sandy loam	SC, SC-SM, SM	A-4, A-2-4	0	0	100	100	75-95	35-50	15-28	2-10
	13-29	Loam, sandy loam, fine sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	98-100	95-100	75-95	30-60	20-32	5-12
	29-60	Stratified sand to fine sandy loam	SM, SC-SM, SP-SM	A-3, A-2-4, A-4	0	0	95-100	90-100	65-95	5-40	10-20	NP-6

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
150C2:												
Onarga----------	0-7	Fine sandy loam	SC, SC-SM, SM	A-4, A-2-4	0	0	100	100	75-95	35-50	15-28	2-10
	7-27	Loam, sandy loam, fine sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	98-100	95-100	75-95	30-60	20-32	5-12
	27-64	Stratified sand to fine sandy loam	SM, SC-SM, SP-SM	A-3, A-2-4, A-4	0	0	95-100	90-100	65-95	5-40	10-20	NP-6
152A:												
Drummer---------	0-14	Silty clay loam	MH, CL, ML	A-7-6, A-7-5	0	0	100	97-100	95-100	85-100	46-60	18-24
	14-41	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	85-100	38-49	19-25
	41-47	Loam	CL	A-6	0	0	95-100	90-100	75-95	50-80	29-38	13-19
	47-60	Stratified loam to sandy loam	SC, CL, CL-ML, SC-SM	A-6, A-2-6, A-4, A-2-4	0	0	95-100	80-100	55-95	30-65	20-31	6-13
153A:												
Pella-----------	0-12	Silty clay loam	CL, ML	A-7-6	0	0	100	95-100	90-100	85-100	40-50	15-25
	12-33	Silty clay loam	CL	A-6, A-7-6	0	0	100	95-100	90-100	85-100	30-50	15-30
	33-42	Silty clay loam, silt loam, clay loam, sandy loam, loam	CL, SC	A-6, A-7-6	0-1	0-5	95-100	85-100	85-95	40-90	25-45	10-25
	42-60	Stratified loamy sand to silty clay loam	SC, CL	A-2-6, A-4, A-6, A-2-4	0-1	0-5	90-100	80-100	50-100	15-85	20-35	7-20
154A:												
Flanagan--------	0-18	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	24-37	13-18
	18-38	Silty clay loam	CL, CH	A-7-6	0	0	100	100	95-100	95-100	45-52	22-28
	38-45	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	95-100	35-40	17-25
	45-49	Silt loam, loam	CL	A-6	0	0-3	85-100	80-100	75-90	60-90	25-33	13-19
	49-60	Loam	SC-SM, SC, CL, CL-ML	A-6, A-4	0-1	0-5	85-100	80-100	75-90	45-70	22-33	6-19

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
171B:												
Catlin----------	0-11	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	25-40	5-20
	11-45	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	95-100	90-100	90-100	30-50	15-30
	45-57	Clay loam, loam	CL	A-6, A-4	0	0-3	90-100	85-100	70-95	50-80	25-40	10-20
	57-70	Loam	CL-ML, CL, SC-SM	A-4, A-6	0	0-3	90-100	85-100	70-90	45-70	20-35	5-15
182A:												
Peotone---------	0-21	Mucky silty clay loam	CL, ML	A-7-5, A-7-6	0	0	100	97-100	95-100	90-100	40-50	15-25
	21-56	Mucky silty clay loam, mucky silty clay	CL, CH	A-7-6	0	0	100	95-100	90-100	85-100	40-70	15-40
	56-64	Marl	---	---	---	---	---	---	---	---	---	---
198A:												
Elburn----------	0-16	Silt loam	CL, ML	A-6, A-7-5, A-7-6	0	0	100	100	97-100	95-100	38-47	14-18
	16-49	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	97-100	95-100	36-48	17-25
	49-58	Stratified sandy loam to silt loam	CL	A-4, A-6	0	0	95-100	95-100	85-100	55-80	25-32	9-13
	58-62	Stratified sandy loam to loamy sand	SC-SM, SM, SC	A-2-4, A-4	0	0	95-100	90-100	60-100	20-50	16-27	2-10
199B:												
Plano-----------	0-15	Silt loam	CL, ML	A-7-6, A-6, A-7-5	0	0	100	100	95-100	90-100	33-45	11-18
	15-45	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	31-47	13-25
	45-55	Loam, clay loam, sandy loam, sandy clay loam	CL, SC, SM	A-7-6, A-6, A-2-6, A-2-7, A-4	0	0-1	90-100	85-95	60-90	30-75	25-42	9-22
	55-80	Stratified loamy sand to silt loam	SC, SM, CL, SC-SM, CL-ML	A-2-4, A-4, A-1-b, A-2-6, A-6	0	0-3	90-100	80-95	35-90	15-65	16-32	2-13

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
221B2:												
Parr------------	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	98-100	95-100	85-100	65-95	20-30	4-15
	8-34	Clay loam, loam	CL	A-7-6, A-6	0	0	95-100	90-100	75-95	55-80	25-45	10-25
	34-60	Loam	CL-ML, CL	A-4	0	0-3	85-100	80-98	70-85	50-65	5-25	3-10
221C3:												
Parr------------	0-8	Clay loam	CL	A-6	0	0	95-100	90-100	80-100	65-80	25-40	10-20
	8-37	Clay loam, loam	CL	A-7-6, A-6	0	0	95-100	90-100	75-95	55-80	25-45	10-25
	37-60	Loam	CL-ML, CL	A-4	0	0-3	85-100	80-98	70-85	50-65	5-25	3-10
223B2:												
Varna-----------	0-7	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	95-100	90-100	80-95	25-40	8-20
	7-26	Silty clay, silty clay loam, clay	CL, CH, MH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	26-38	Silty clay, silty clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	38-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25
223C2:												
Varna-----------	0-9	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	95-100	90-100	80-95	25-40	8-20
	9-29	Silty clay, silty clay loam, clay	CL, CH, MH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	29-50	Silty clay, silty clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	50-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25
223D2:												
Varna-----------	0-9	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	95-100	90-100	80-95	25-40	8-20
	9-31	Silty clay, silty clay loam, clay	CL, CH, MH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	31-36	Silty clay, silty clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	36-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
224G:												
Strawn----------	0-2	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	98-100	95-100	90-100	70-95	20-40	5-20
	2-7	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0	98-100	95-100	90-100	70-95	20-40	5-20
	7-15	Silty clay loam, clay loam, loam, silt loam	CL	A-4, A-6, A-7-6	0-1	0-3	90-100	85-100	75-95	50-85	25-45	8-23
	15-60	Loam, clay loam	CL-ML, SC, SC-SM, CL	A-4, A-6	0-1	0-5	85-100	80-100	70-90	45-80	20-40	5-20
230A:												
Rowe------------	0-14	Silty clay loam	CL, ML	A-6, A-7-5, A-7-6	0	0	100	98-100	90-100	85-100	35-50	15-30
	14-48	Silty clay, clay	CH	A-7-6	0	0-2	98-100	95-100	90-100	85-100	50-70	30-45
	48-63	Silty clay, clay	CL, CH	A-7-6	0	0-3	95-100	90-100	90-100	85-100	45-60	20-35
232A:												
Ashkum----------	0-12	Silty clay loam	CL, CH	A-7-6	0	0	100	100	95-100	85-100	45-52	22-28
	12-29	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	97-100	95-100	85-100	45-57	22-32
	29-54	Silty clay loam	CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-45	12-22
	54-60	Silty clay loam	CL	A-6	0	0-3	95-100	85-98	80-95	70-95	33-39	12-17
233B:												
Birkbeck--------	0-4	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	11-18
	4-9	Silt loam	CL	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-18
	9-54	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-25
	54-60	Loam	CL, SC	A-6, A-4	0	0-1	85-100	85-100	70-95	45-75	25-33	8-14
	60-68	Loam	CL, SC, SC-SM, CL-ML	A-4, A-6	0-1	0-3	85-100	85-100	70-95	45-75	22-33	4-14
235A:												
Bryce-----------	0-13	Silty clay	CH, CL, MH	A-7-6, A-7-5	0	0	100	100	95-100	85-98	45-60	20-30
	13-45	Silty clay, clay	MH, CH	A-7-6	0-1	0-2	95-100	95-100	95-100	80-95	50-60	25-35
	45-58	Silty clay, clay	MH, CL, CH	A-7-6	0-1	0-3	95-100	90-100	90-100	75-95	45-60	20-35
	58-66	Silty clay, silty clay loam, clay	CH, CL, MH	A-7-6, A-7-5	0-1	0-5	95-100	85-100	80-100	75-95	40-60	20-30

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
236A:												
Sabina----------	0-8	Silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	95-100	31-43	13-18
	8-12	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	27-37	12-17
	12-43	Silty clay, silty clay loam	CL, CH	A-7-6	0	0	100	100	95-100	95-100	45-55	25-31
	43-50	Clay loam, loam, silt loam, silty clay loam	CL	A-6, A-7-6	0-1	0-3	95-100	90-100	75-95	55-85	31-46	13-25
	50-80	Clay loam, loam, silt loam	CL	A-4, A-6, A-7-6	0-1	0-5	90-100	85-95	70-95	50-80	25-41	9-22
238A:												
Rantoul---------	0-17	Silty clay	CH, CL, MH	A-7-6, A-7-5	0	0	100	98-100	95-100	90-100	40-60	18-30
	17-40	Silty clay, clay	CH, CL, MH	A-7-5, A-7-6	0	0	98-100	95-100	90-100	85-100	45-70	20-40
	40-60	Silty clay loam, silty clay, clay	CH, CL, MH	A-6, A-7-6, A-7-5	0	0-2	95-100	90-100	90-100	85-100	38-65	16-38
241D3:												
Chatsworth------	0-2	Silty clay	CH, MH	A-7-6, A-7-5	0	0	100	100	95-100	90-100	50-65	25-35
	2-22	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	95-100	90-100	45-75	20-45
	22-60	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	90-100	80-95	45-65	20-35
242A:												
Kendall---------	0-7	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	90-100	20-35	5-15
	7-11	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	20-35	5-15
	11-51	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	90-100	35-45	16-25
	51-58	Loam	CL, SC	A-6, A-4	0	0	95-100	80-98	65-98	40-80	25-35	8-15
	58-80	Stratified sandy loam to silt loam	CL-ML, CL, SC-SM, SC	A-4	0	0-3	90-100	80-98	60-95	40-80	20-30	4-10

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
291B:												
Xenia-----------	0-4	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	24-37	5-15
	4-10	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	24-37	5-15
	10-37	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	85-100	33-46	14-24
	37-57	Clay loam, loam	CL	A-6	0	0	90-100	85-98	75-95	55-85	30-40	11-18
	57-72	Loam	CL-ML, CL, SC, SC-SM	A-4	0-1	0-3	90-100	85-98	70-90	45-75	20-28	5-10
293A:												
Andres----------	0-11	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	95-100	90-100	80-95	65-90	29-33	7-13
	11-36	Clay loam, sandy clay loam, loam, silty clay loam	CL, ML	A-6	0	0-1	95-100	85-100	75-95	50-85	31-39	11-18
	36-50	Silty clay loam	ML, CL	A-6	0	0-1	95-100	85-100	80-95	70-95	33-39	12-17
	50-60	Silty clay loam, silt loam	CL, ML	A-6, A-4	0	0-3	95-100	85-100	80-95	70-95	30-39	10-17
294B:												
Symerton--------	0-15	Silt loam	CL-ML, ML, CL	A-6, A-4	0	0	95-100	90-100	80-100	65-90	29-33	7-13
	15-19	Silty clay loam	CL, ML	A-6, A-4	0	0	95-100	90-100	80-100	70-95	31-37	10-15
	19-35	Gravelly clay loam, loam, clay loam, gravelly loam	CL, ML, SC, SM	A-6, A-4	0	0-3	85-100	70-95	60-85	40-60	29-39	9-20
	35-39	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	28-39	7-18
	39-60	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	24-37	7-18
295A:												
Mokena----------	0-5	Silt loam	CL, ML	A-4, A-6	0	0	95-100	90-100	80-95	65-90	25-35	8-15
	5-15	Loam	ML, CL	A-6, A-4	0	0	95-100	90-100	80-95	60-80	25-35	8-15
	15-38	Clay loam, sandy clay loam, loam	CL, ML	A-6	0	0-1	95-100	85-100	75-95	50-80	30-40	11-19
	38-42	Silty clay, clay	CL, CH, MH	A-7-6	0	0-2	95-100	90-100	85-100	80-100	45-60	20-35
	42-60	Silty clay, clay	CL, CH, MH	A-7-6	0	0-5	90-100	85-100	85-100	80-100	40-55	20-31

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
330A:												
Peotone---------	0-13	Silty clay loam	CH, MH	A-7-5, A-7-6	0	0	100	95-100	95-100	90-100	54-65	23-28
	13-50	Silty clay loam, silty clay	CL, CH	A-7-6	0	0-3	98-100	95-100	90-100	85-100	46-61	25-32
	50-60	Silty clay loam, silt loam, silty clay	CL, CH	A-6, A-7-6	0	0-5	95-100	95-100	90-100	75-100	35-52	17-30
387B:												
Ockley----------	0-10	Silt loam	ML, CL-ML, CL	A-4	0	0	95-100	85-100	75-100	60-90	15-30	3-10
	10-35	Silty clay loam, clay loam, silt loam	CL	A-4, A-6	0	0	90-100	85-100	75-95	60-90	25-40	8-15
	35-45	Gravelly clay loam, sandy clay loam, loam, very gravelly sandy loam	CL, SC	A-2-4, A-2-6, A-4, A-6	0	0-2	70-85	40-85	40-75	10-65	25-40	8-15
	45-60	Stratified very gravelly loamy sand to coarse sand	SP-SM, GP-GM, GP, SP	A-1-a, A-1-b	0	1-5	30-70	20-55	10-40	2-10	0-15	NP
440A:												
Jasper----------	0-11	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-100	60-70	25-35	5-15
	11-30	Clay loam, silty clay loam, loam, sandy clay loam	CL, ML	A-6, A-7-6	0	0	100	95-100	80-95	55-85	30-45	10-20
	30-47	Fine sandy loam, loam, sandy clay loam, sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	100	90-100	70-85	30-60	20-30	5-15
	47-60	Stratified sand to silt loam	SC, SC-SM, SM, CL, CL-ML	A-2-4, A-4	0	0	100	85-100	60-85	15-65	5-25	NP-10

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
440B:												
Jasper----------	0-12	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-100	60-70	25-35	5-15
	12-26	Clay loam, silty clay loam, loam, sandy clay loam	CL, ML	A-6, A-7-6	0	0	100	95-100	80-95	55-85	30-45	10-20
	26-50	Fine sandy loam, loam, sandy clay loam, sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	100	90-100	70-85	30-60	20-30	5-15
	50-60	Stratified sand to silt loam	SC, SC-SM, SM, CL, CL-ML	A-2-4, A-4	0	0	100	85-100	60-85	15-65	5-25	NP-10
440C2:												
Jasper----------	0-8	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-100	60-70	25-35	5-15
	8-23	Clay loam, silty clay loam, loam, sandy clay loam	CL, ML	A-6, A-7-6	0	0	100	95-100	80-95	55-85	30-45	10-20
	23-42	Fine sandy loam, loam, sandy clay loam, sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	100	90-100	70-85	30-60	20-30	5-15
	42-60	Stratified sand to silt loam	SC, SC-SM, SM, CL, CL-ML	A-2-4, A-4	0	0	100	85-100	60-85	15-65	5-25	NP-10
448B:												
Mona------------	0-11	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	95-100	95-100	85-100	25-45	8-25
	11-39	Clay loam, silty clay loam, sandy clay loam	SC, SM, ML, CL	A-6, A-7-6	0	0-5	95-100	85-100	75-90	40-85	35-50	11-25
	39-44	Silty clay, clay	ML, MH, CH, CL	A-7-6, A-6	0-1	0-5	95-100	85-95	80-95	75-95	40-60	15-35
	44-60	Silty clay, clay	CH, CL, MH, ML	A-7-6, A-6	0-1	0-5	95-100	85-95	80-95	75-95	40-60	15-35

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
481A:												
Raub------------	0-18	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	97-100	95-100	85-100	24-37	4-14
	18-32	Silty clay loam	CL	A-6, A-7-6	0	0	100	97-100	95-100	85-100	37-46	17-24
	32-50	Clay loam, loam	CL	A-6	0	0	90-100	85-100	75-95	55-85	33-39	12-18
	50-60	Loam, clay loam	CL-ML, CL, SC, SC-SM	A-4, A-6	0-1	0-3	85-100	80-95	70-90	45-70	22-33	4-14
490A:												
Odell-----------	0-11	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	95-100	85-100	70-90	20-35	5-15
	11-26	Clay loam, loam, silty clay loam	CL	A-4, A-6	0	0	95-100	90-100	75-100	55-85	25-40	7-15
	26-60	Loam	CL-ML, CL	A-4, A-6	0	0-3	95-100	85-100	70-95	50-70	15-25	5-15
496A:												
Fincastle-------	0-10	Silt loam	CL, ML, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	24-37	6-15
	10-14	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	85-100	24-37	7-18
	14-35	Silty clay loam, silt loam	CL, ML	A-7-6, A-6	0	0	100	98-100	95-100	85-100	33-46	13-25
	35-43	Clay loam, loam	CL, ML	A-6	0	0	95-100	90-100	70-95	50-80	34-40	14-20
	43-49	Clay loam, loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	70-95	50-80	27-36	8-15
	49-60	Loam	CL-ML, SC-SM, SC, CL	A-4	0-1	0-3	90-100	80-95	70-90	45-70	22-28	4-10
496B2:												
Fincastle-------	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	24-37	6-15
	7-31	Silty clay loam, silt loam	CL, ML	A-7-6, A-6	0	0	100	98-100	95-100	85-100	33-46	13-25
	31-44	Clay loam, loam	CL, ML	A-6	0	0	95-100	90-100	70-95	50-80	34-40	14-20
	44-53	Clay loam, loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	70-95	50-80	27-36	8-15
	53-60	Loam	CL-ML, SC-SM, SC, CL	A-4	0-1	0-3	90-100	80-95	70-90	45-70	22-28	4-10
530C2:												
Ozaukee---------	0-6	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	6-21	Silty clay loam, clay, silty clay	CL, CH, MH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	21-28	Silty clay loam, silty clay	CL, CH	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	28-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
530D2:												
Ozaukee---------	0-6	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	6-20	Silty clay loam, clay, silty clay	CH, CL, MH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	20-28	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	28-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
530D3:												
Ozaukee---------	0-9	Silty clay loam	CL, ML	A-6, A-7-6	0	0-1	90-98	85-98	85-95	80-95	35-50	15-25
	9-21	Silty clay loam, clay, silty clay	MH, CL, CH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	21-25	Silty clay loam, silty clay	CL, CH	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	25-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
530E2:												
Ozaukee---------	0-6	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	6-27	Silty clay loam, clay, silty clay	CL, CH, MH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	27-31	Silty clay loam, silty clay	CL, CH	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	31-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
530F:												
Ozaukee---------	0-5	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	5-29	Silty clay loam, clay, silty clay	MH, CH, CL	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	29-36	Silty clay loam, silty clay	CL, CH	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	36-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
530G:												
Ozaukee---------	0-4	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	4-8	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0-2	95-100	95-100	90-100	85-95	20-35	5-15
	8-24	Silty clay loam	CL	A-6	0-1	0-3	95-100	90-98	85-95	85-95	34-40	13-17
	24-29	Silty clay loam	CL	A-6	0-1	0-5	90-98	85-98	80-95	75-95	32-39	12-16
	29-60	Silty clay loam, clay loam, silt loam	CL	A-6	0-1	0-5	90-98	80-95	75-95	70-90	30-38	11-15
533.												
Urban land												
536.												
Dumps												
549G:												
Marseilles------	0-3	Loam, silt loam	CL, CL-ML, ML	A-6, A-4	0	0	98-100	95-100	80-100	55-95	20-35	5-15
	3-6	Silt loam, loam	CL-ML, CL	A-4, A-6	0	0-2	98-100	95-100	80-100	60-95	20-35	5-15
	6-12	Silt loam, silty clay loam	CL	A-4, A-6	0	0-2	95-100	90-100	85-100	80-95	25-40	7-20
	12-23	Silt loam, silty clay loam	CL	A-7-6, A-6	0-1	0-5	90-100	80-100	75-100	70-95	30-45	11-22
	23-60	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
570B:												
Martinsville----	0-9	Silt loam	ML, CL-ML	A-4	0	0	100	85-100	70-100	50-95	20-30	2-7
	9-12	Silt loam	ML, CL-ML, CL	A-4	0	0	100	85-100	70-100	50-95	20-30	3-9
	12-45	Clay loam, loam, sandy clay loam	CL, SC	A-4, A-6	0	0	95-100	85-100	60-100	40-85	29-37	9-17
	45-57	Sandy loam, sandy clay loam, loam	CL, SC	A-4, A-6	0	0	92-100	85-100	45-95	35-80	25-37	7-17
	57-80	Stratified sand to silt loam	SM, SC-SM, ML, CL-ML, SP-SM	A-4, A-2-4, A-1-b	0	0	92-100	85-100	40-95	5-75	15-25	2-7
570C2:												
Martinsville----	0-9	Loam	CL-ML	A-4, A-6	0	0	100	85-100	65-100	50-80	24-35	7-13
	9-45	Clay loam, loam, sandy clay loam	CL, SC	A-7-5, A-7-6, A-6	0	0	95-100	85-100	60-100	40-85	31-44	13-23
	45-57	Sandy loam, sandy clay loam, loam	CL, SC	A-6	0	0	92-100	85-100	50-100	35-80	25-35	9-17
	57-80	Stratified sand to silt loam	SM, SC-SM, ML, CL-ML, SP-SM	A-4, A-2-4, A-1-b	0	0	92-100	85-100	40-100	5-70	16-27	2-10
570D2:												
Martinsville----	0-9	Loam	CL-ML	A-4	0	0	100	85-100	75-100	50-70	15-25	4-7
	9-45	Clay loam, loam, sandy clay loam	CL, SC	A-4, A-6	0	0	95-100	85-100	60-100	40-85	29-37	9-17
	45-69	Sandy loam, sandy clay loam, loam	CL, SC	A-4, A-6	0	0	92-100	85-100	45-95	35-80	25-37	7-17
	69-80	Stratified sand to silt loam	SM, SC-SM, ML, CL-ML	A-4, A-2-4	0	0	92-100	85-100	40-95	25-65	15-25	2-7

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
570F:												
Martinsville----	0-5	Loam	ML, CL-ML, CL	A-4	0	0	100	100	90-100	60-80	24-28	4-8
	5-10	Loam	CL, ML, CL-ML	A-4	0	0	100	100	90-100	60-80	22-28	4-10
	10-34	Clay loam, silty clay loam, sandy clay loam	CL, SC, ML	A-4, A-6	0	0	100	100	70-90	40-75	25-40	9-17
	34-44	Fine sandy loam, loam, silt loam	SC-SM, SC, CL-ML, CL	A-4, A-6, A-2-4, A-2-6	0	0	100	100	70-90	30-70	25-35	6-12
	44-60	Stratified sand to silt loam	SC, SC-SM, SM, CL-ML, ML	A-2-4, A-4	0	0	100	100	60-90	20-70	15-30	2-10
571A:												
Whitaker--------	0-10	Loam	CL-ML, ML, CL	A-4, A-6	0	0	98-100	95-100	75-90	55-75	20-30	5-11
	10-47	Clay loam, silty clay loam, sandy clay loam, loam	CL, ML	A-4, A-6, A-7-6	0	0	98-100	95-100	75-90	50-85	25-45	8-23
	47-54	Loam, sandy loam	SC, SC-SM, SM, CL, CL-ML	A-6, A-4	0	0	95-100	90-100	60-85	40-60	18-35	4-15
	54-60	Stratified loamy sand to silt loam	SC, SM, SC-SM, CL-ML, ML	A-4, A-2-4	0	0	90-100	80-100	55-85	20-70	15-28	NP-9
618C2:												
Senachwine------	0-6	Silt loam	CL, ML	A-6	0	0	95-100	95-100	90-98	77-90	30-41	13-19
	6-12	Silty clay loam, clay loam	CL	A-7-6, A-6	0	0	95-100	95-100	90-99	75-90	37-46	19-25
	12-27	Clay loam	CL	A-7-6, A-6	0	0	90-100	85-99	75-95	55-85	37-46	19-25
	27-60	Loam	CL-ML, CL, SC, SC-SM	A-6, A-4	0-1	0-3	90-100	85-99	73-95	45-75	20-31	6-13
618C3:												
Senachwine------	0-4	Clay loam	CL, ML	A-6	0	0	100	90-100	83-95	59-85	30-40	15-20
	4-33	Clay loam	CL, ML	A-6	0	0	90-100	85-99	75-95	55-85	33-39	12-18
	33-60	Loam	CL-ML, CL, ML, SC-SM	A-4	0-1	0-3	90-100	85-99	73-95	45-75	22-28	4-10

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
618D2:												
Senachwine------	0-6	Silt loam	CL, ML	A-6	0	0	95-100	95-100	90-100	80-90	30-41	13-19
	6-15	Silty clay loam, clay loam	CL	A-7-6, A-6	0	0	95-100	95-100	90-99	75-90	37-46	19-25
	15-28	Clay loam	CL	A-7-6, A-6	0	0	90-100	85-99	75-95	55-85	37-46	19-25
	28-34	Loam, clay loam	CL, SC	A-6	0	0-2	90-100	85-99	72-95	45-75	29-38	13-19
	34-60	Loam	CL-ML, CL, SC-SM, SC	A-6, A-4	0-1	0-3	90-100	85-99	73-95	45-75	20-31	6-13
618E2:												
Senachwine------	0-6	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	80-95	65-95	20-30	5-15
	6-28	Clay loam, silty clay loam	CL	A-6, A-7-6	0	0	90-98	85-98	85-95	60-85	35-45	15-20
	28-34	Clay loam, loam	CL	A-6	0-1	0-3	90-98	85-98	75-95	55-80	30-35	10-15
	34-60	Loam	CL-ML, CL, SC-SM, SC	A-4	0-1	0-3	90-98	85-98	75-95	45-75	22-28	4-10
618F:												
Senachwine------	0-11	Silt loam	CL-ML, CL, ML	A-6, A-4	0	0	95-100	90-100	75-100	55-90	22-36	6-13
	11-17	Silty clay loam, clay loam	CL, ML	A-7-6, A-6	0	0	90-100	85-99	75-95	55-90	37-47	19-25
	17-32	Clay loam	CL	A-7-6, A-6	0	0	90-100	85-99	75-95	55-85	37-46	19-25
	32-40	Loam, clay loam	CL, SC	A-6	0	0-2	90-100	85-99	70-90	45-75	29-38	13-19
	40-60	Loam	CL-ML, CL, SC-SM, SC	A-6, A-4	0-1	0-3	90-100	85-99	70-90	45-75	20-31	6-13
623A:												
Kishwaukee------	0-11	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	80-100	70-95	20-30	4-15
	11-54	Silty clay loam, clay loam, loam	CL	A-4, A-6	0	0	90-100	85-100	75-100	50-90	30-40	10-20
	54-64	Stratified very gravelly loamy sand to sand	GP, SP, GP-GM, SP-SM	A-1-a, A-1-b	0-1	1-5	30-70	30-70	10-40	1-15	0-15	NP

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
687B:												
Penfield--------	0-10	Loam	CL-ML, CL	A-4, A-6	0	0	100	95-100	85-100	50-70	25-35	5-15
	10-61	Clay loam, loam, silty clay loam, sandy loam	CL, SC	A-6	0	0	100	95-100	80-95	45-85	20-35	10-20
	61-72	Fine sandy loam, loam, sandy clay loam	SC-SM, SC, CL-ML, CL	A-2-4, A-2-6, A-4, A-6	0	0	100	85-100	60-70	30-55	20-30	5-15
	72-80	Stratified sand to silt loam	SC-SM, SC, CL-ML, CL, SP-SC	A-2-4, A-4	0	0	100	85-100	75-90	10-85	15-30	5-10
758A:												
Haskins---------	0-9	Loam	CL, CL-ML	A-4, A-6	0	0	95-100	85-100	80-95	55-75	20-30	5-11
	9-13	Loam	CL-ML, CL	A-6, A-4	0	0	95-100	85-100	80-95	55-75	20-30	5-11
	13-39	Clay loam, loam, sandy clay loam	CL	A-6, A-7-6	0-1	0-5	90-100	80-100	75-95	50-80	32-45	12-22
	39-61	Silty clay loam	CL	A-6, A-7-6	0-1	0-3	90-100	85-98	80-95	75-95	35-45	14-20
	61-78	Silty clay loam, silt loam	CL	A-4, A-6, A-7-6	0-1	0-3	90-100	85-98	80-95	75-95	30-42	10-18
802B:												
Orthents, loamy	0-6	Loam	CL, ML	A-6, A-4	0-1	0-5	95-100	85-100	80-95	50-80	20-40	8-20
	6-60	Loam, silt loam, clay loam	CL, ML	A-6, A-4	0-1	0-5	95-100	80-100	75-95	50-80	20-40	8-20
802F:												
Orthents, loamy	0-6	Loam	CL, ML	A-6, A-4	0-1	0-5	95-100	85-100	80-95	50-80	20-40	8-20
	6-60	Loam, silt loam, clay loam	CL, ML	A-6, A-4	0-1	0-5	95-100	80-100	75-95	50-80	20-40	8-20
864.												
Pits, quarry												
865.												
Pits, gravel												

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
871B:												
Lenzburg--------	0-5	Silt loam, loam	CL	A-7-6, A-6	0-1	2-10	80-100	75-100	65-100	40-85	32-42	13-19
	5-37	Silt loam, silty clay loam, clay loam	CL	A-6, A-7-6	0-2	2-10	80-95	75-90	65-90	40-80	31-47	13-25
	37-80	Silty clay loam, silt loam, gravelly loam, channery silty clay loam	CL	A-6, A-7-6	0-2	5-15	75-95	70-90	60-90	35-80	31-47	13-25
871G:												
Lenzburg--------	0-2	Gravelly loam	CL, ML	A-4, A-6	0-2	3-15	80-95	75-90	65-90	55-75	25-40	8-20
	2-60	Silty clay loam, silt loam, gravelly loam, clay loam	CL	A-6, A-7-6	0-2	5-15	75-95	70-90	65-85	50-75	25-45	10-25
3107A:												
Sawmill---------	0-10	Silty clay loam	CL, ML, MH	A-7-6, A-7-5	0	0	100	100	95-100	85-100	46-60	18-24
	10-32	Silty clay loam	CL, ML, MH	A-7-6, A-7-5	0	0	100	100	95-100	85-100	46-60	18-24
	32-58	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	80-95	40-52	19-25
	58-65	Silty clay loam, clay loam	CL	A-7-6, A-6	0	0	100	97-100	90-100	80-95	36-52	17-25
3183A:												
Shaffton--------	0-13	Loam	CL, ML	A-4, A-6, A-7-6	0	0	100	100	85-95	55-80	29-45	9-18
	13-44	Loam, clay loam	CL	A-6, A-7-6	0	0	100	98-100	85-95	55-80	28-42	12-21
	44-60	Stratified loamy sand to loam	SM, SC-SM, SC, CL-ML, CL	A-2-4, A-4	0	0	95-100	90-100	60-80	25-55	16-28	NP-10
3302A:												
Ambraw----------	0-11	Loam	CL, ML	A-6, A-4	0	0	100	100	85-95	65-85	25-40	8-20
	11-49	Clay loam, loam	CL	A-6, A-7-6	0	0	100	100	85-95	60-85	30-45	11-22
	49-60	Stratified sandy loam to clay loam	CL, CL-ML, SC, SC-SM, SM	A-4, A-6, A-2-4, A-2-6	0	0	100	90-100	80-90	30-80	20-40	5-20

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3473A:												
Rossburg--------	0-21	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	90-100	90-100	80-100	65-95	20-35	5-15
	21-55	Loam, silt loam, sandy loam	ML, CL-ML, CL, SC	A-4, A-6, A-7-6	0	0	90-100	85-100	70-100	40-95	20-45	5-20
	55-63	Stratified sandy loam to silt loam	SM, SC, SC-SM, CL, CL-ML	A-2-4, A-4, A-6, A-2-6	0	0-5	90-100	80-100	65-100	30-80	15-30	NP-15
7304A:												
Landes----------	0-16	Fine sandy loam	SC-SM, SC, SM	A-4, A-2-4	0	0	100	85-100	75-95	30-50	15-29	NP-10
	16-35	Loam, very fine sandy loam, loamy fine sand, fine sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	100	85-100	70-95	15-50	0-28	NP-9
	35-60	Sandy loam, loamy fine sand, sand	SC-SM, SM, SP-SM	A-3, A-2-4, A-4	0	0	100	85-100	60-85	5-50	0-25	NP-7
8304A:												
Landes----------	0-16	Fine sandy loam	SC-SM, SC, SM	A-4, A-2-4	0	0	100	85-100	75-95	30-50	15-29	NP-10
	16-34	Loam, very fine sandy loam, loamy fine sand, fine sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	100	85-100	70-95	15-50	0-28	NP-9
	34-62	Sandy loam, loamy fine sand, sand	SC-SM, SM, SP-SM	A-3, A-2-4, A-4	0	0	100	85-100	60-85	5-50	0-25	NP-7
8473A:												
Rossburg--------	0-11	Loam	ML, CL-ML, CL	A-4, A-6	0	0	90-100	90-100	80-100	60-75	20-35	5-15
	11-55	Loam, silt loam, sandy loam	ML, CL-ML, CL, SC, SC-SM	A-4, A-6, A-7-6	0	0	90-100	85-100	70-100	40-90	20-45	5-20
	55-60	Stratified sandy loam to silt loam	SM, SC, SC-SM, CL, CL-ML	A-2-4, A-4, A-6, A-2-6	0	0-5	90-100	80-100	65-100	30-80	15-30	NP-15
8674A:												
Dozaville-------	0-18	Silt loam	CL, ML	A-6	0	0	100	100	95-100	85-100	30-35	10-15
	18-59	Silt loam	ML, CL	A-6	0	0	100	100	95-100	85-100	30-35	10-15
	59-80	Silt loam, loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	65-100	20-30	3-9

Table 22.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
17A:														
Keomah--------------	0-11	0-7	67-84	16-26	1.35-1.45	0.6-2	0.19-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	11-18	0-7	67-84	16-26	1.40-1.60	0.2-0.6	0.17-0.21	0.0-2.9	0.1-1.0	.49	.49			
	18-33	0-7	51-65	35-42	1.30-1.40	0.06-0.2	0.15-0.19	6.0-8.9	0.1-0.5	.37	.37			
	33-51	0-7	58-73	27-35	1.35-1.45	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	51-89	0-7	66-85	15-27	1.40-1.60	0.2-2	0.19-0.22	0.0-2.9	0.0-0.2	.49	.49			
23A:														
Blount--------------	0-7	5-20	53-77	18-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	4	6	48
	7-13	5-20	53-80	15-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37	.37			
	13-26	5-25	27-60	35-48	1.40-1.70	0.06-0.6	0.12-0.19	3.0-5.9	0.2-1.0	.37	.37			
	26-32	10-30	25-63	27-45	1.50-1.70	0.06-0.2	0.12-0.19	3.0-5.9	0.0-0.5	.37	.37			
	32-60	10-30	30-63	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
23B2:														
Blount--------------	0-4	5-20	53-77	18-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	4	6	48
	4-16	5-25	27-60	35-48	1.40-1.70	0.06-0.6	0.12-0.19	3.0-5.9	0.2-1.0	.37	.37			
	16-31	10-30	25-63	27-45	1.50-1.70	0.06-0.2	0.12-0.19	3.0-5.9	0.0-0.5	.37	.37			
	31-60	10-30	30-63	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
43A:														
Ipava---------------	0-10	2-7	66-83	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	10-18	2-7	58-71	27-35	1.20-1.40	0.6-2	0.18-0.21	3.0-5.9	1.5-3.5	.24	.24			
	18-31	2-7	48-63	35-45	1.30-1.50	0.2-0.6	0.15-0.18	6.0-8.9	0.5-1.5	.37	.37			
	31-50	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	50-60	2-7	66-83	15-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.5	.49	.49			
56B2:														
Dana----------------	0-7	2-15	58-78	20-27	1.40-1.60	0.6-2	0.16-0.21	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	7-34	2-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.5-1.5	.37	.37			
	34-53	20-40	25-53	27-35	1.50-1.70	0.6-2	0.12-0.17	3.0-5.9	0.1-0.5	.32	.32			
	53-60	30-45	28-50	15-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.37	.43			
59A:														
Lisbon--------------	0-11	0-15	58-80	20-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.28	.28	5	6	48
	11-36	0-15	50-75	25-35	1.15-1.35	0.6-2	0.18-0.22	3.0-5.9	0.5-2.0	.37	.37			
	36-39	20-45	21-53	20-34	1.45-1.55	0.6-2	0.15-0.20	3.0-5.9	0.2-0.5	.32	.32			
	39-70	25-55	25-50	15-25	1.70-1.90	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.5	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
67A:														
Harpster------------	0-18	3-15	50-70	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	3.5-6.0	.24	.24	5	4L	86
	18-41	3-15	50-70	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.8-1.5	.37	.37			
	41-56	3-27	58-82	15-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.5-1.0	.49	.49			
	56-60	30-50	28-55	15-27	1.45-1.65	0.6-2	0.10-0.20	0.0-2.9	0.1-0.5	.37	.37			
68A:														
Sable---------------	0-19	0-7	58-73	27-35	1.15-1.35	0.6-2	0.21-0.23	3.0-5.9	5.0-6.0	.24	.24	5	6	48
	19-23	0-7	58-73	27-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	2.0-4.0	.28	.28			
	23-47	0-7	58-76	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	47-60	0-7	65-80	20-28	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
69A:														
Milford-------------	0-9	5-20	40-60	35-40	1.30-1.50	0.6-2	0.20-0.23	6.0-8.9	4.0-6.0	.20	.20	5	4	86
	9-22	5-20	40-55	40-42	1.30-1.50	0.2-0.6	0.14-0.20	6.0-8.9	3.0-5.0	.17	.17			
	22-50	0-25	33-65	35-42	1.40-1.60	0.2-0.6	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	50-60	0-55	15-82	18-30	1.50-1.70	0.2-0.6	0.20-0.22	3.0-5.9	0.0-1.0	.37	.37			
88B:														
Sparta--------------	0-13	75-95	0-23	2-10	1.25-1.45	2-6	0.09-0.13	0.0-2.9	1.0-2.0	.02	.02	5	2	134
	13-71	72-95	0-27	1-8	1.40-1.60	6-20	0.06-0.12	0.0-2.9	0.1-0.5	.10	.10			
	71-80	75-97	0-24	1-10	1.40-1.60	6-20	0.05-0.11	0.0-2.9	0.0-0.5	.10	.10			
91A:														
Swygert-------------	0-12	2-15	50-71	27-35	1.30-1.50	0.2-0.6	0.19-0.22	3.0-5.9	3.0-5.0	.20	.20	4	6	48
	12-26	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	26-51	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32	.32			
	51-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.05-0.09	3.0-5.9	0.0-0.5	.37	.37			
91B2:														
Swygert-------------	0-7	2-15	47-68	30-38	1.35-1.55	0.2-0.6	0.18-0.21	3.0-5.9	2.0-4.0	.24	.24	4	6	48
	7-30	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	30-48	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32	.32			
	48-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.05-0.09	3.0-5.9	0.0-0.5	.37	.37			
91C2:														
Swygert-------------	0-7	2-15	47-68	30-38	1.35-1.55	0.2-0.6	0.18-0.21	3.0-5.9	2.0-4.0	.24	.24	4	6	48
	7-18	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	18-36	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32	.32			
	36-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.05-0.09	3.0-5.9	0.0-0.5	.37	.37			
102A:														
La Hogue------------	0-16	25-45	28-55	15-27	1.40-1.60	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.24	.24	5	6	48
	16-32	20-60	5-55	20-35	1.50-1.70	0.6-2	0.12-0.20	3.0-5.9	0.5-2.0	.32	.32			
	32-48	30-80	0-55	10-22	1.55-1.75	0.6-2	0.08-0.20	0.0-2.9	0.2-1.0	.28	.28			
	48-60	30-85	0-65	5-20	1.60-1.80	0.6-6	0.05-0.20	0.0-2.9	0.0-0.5	.24	.24			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
125A:														
Selma---------------	0-6	20-45	28-60	20-27	1.40-1.60	0.6-2	0.20-0.24	0.0-2.9	4.0-6.0	.24	.24	5	6	48
	6-13	20-45	20-53	27-35	1.40-1.60	0.6-2	0.17-0.19	3.0-5.9	3.0-5.0	.17	.17			
	13-44	15-62	6-67	18-32	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.0-2.0	.32	.32			
	44-80	30-90	0-63	7-18	1.60-1.90	2-6	0.07-0.19	0.0-2.9	0.0-1.0	.24	.24			
131B:														
Alvin---------------	0-8	55-70	15-35	10-15	1.45-1.65	2-6	0.14-0.17	0.0-2.9	0.5-1.5	.20	.20	5	3	86
	8-11	55-75	10-35	10-15	1.45-1.65	2-6	0.10-0.17	0.0-2.9	0.0-0.5	.24	.24			
	11-25	45-70	12-40	15-18	1.40-1.65	2-6	0.14-0.18	0.0-2.9	0.0-0.5	.24	.24			
	25-80	65-95	0-32	3-10	1.45-1.65	2-6	0.10-0.15	0.0-2.9	0.0-0.3	.20	.20			
132A:														
Starks--------------	0-10	0-15	58-82	18-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-14	0-15	58-85	15-27	1.30-1.50	0.6-2	0.21-0.23	0.0-2.9	0.5-1.0	.49	.49			
	14-31	0-15	50-73	27-35	1.40-1.60	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	31-43	15-60	10-75	10-30	1.45-1.65	0.6-2	0.12-0.19	0.0-2.9	0.2-0.5	.32	.32			
	43-60	15-85	0-75	5-30	1.50-1.75	0.6-6	0.10-0.18	0.0-2.9	0.0-0.5	.28	.28			
134B:														
Camden--------------	0-9	0-10	63-86	14-27	1.25-1.45	0.6-2	0.21-0.25	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-14	0-10	63-86	14-27	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	0.5-1.0	.49	.49			
	14-35	0-10	55-78	22-35	1.35-1.55	0.6-2	0.14-0.24	3.0-5.9	0.2-1.0	.37	.37			
	35-62	15-70	5-67	18-30	1.45-1.65	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.32	.32			
	62-80	30-85	0-65	5-20	1.55-1.70	0.6-6	0.07-0.17	0.0-2.9	0.0-0.5	.28	.28			
145B2:														
Saybrook------------	0-8	2-15	58-78	20-27	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	8-28	2-15	55-72	25-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	28-31	20-40	25-53	27-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.32	.32			
	31-60	30-50	28-50	20-27	1.65-1.80	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.5	.37	.37			
146A:														
Elliott-------------	0-6	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24	.24	4	6	48
	6-11	2-15	50-71	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	2.5-4.0	.20	.20			
	11-16	1-20	30-59	40-50	1.40-1.60	0.06-0.6	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	16-41	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	41-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
146B2:														
Elliott-------------	0-8	2-15	50-71	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	2.5-4.0	.24	.24	4	6	48
	8-14	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.14	6.0-8.9	0.5-1.5	.32	.32			
	14-27	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	27-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
146C2:														
Elliott	0-8	2-15	50-71	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	2.5-4.0	.24	.24	4	6	48
	8-17	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.14	6.0-8.9	0.5-1.5	.32	.32			
	17-29	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	29-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
147A:														
Clarence	0-11	1-15	45-72	27-40	1.20-1.45	0.2-0.6	0.16-0.20	3.0-5.9	3.0-5.0	.20	.20	3	6	48
	11-39	1-15	25-49	50-60	1.40-1.60	0.0-0.06	0.07-0.09	3.0-5.9	0.0-1.0	.32	.32			
	39-60	1-15	25-59	40-60	1.65-1.85	0.0-0.06	0.03-0.07	3.0-5.9	0.0-0.5	.37	.37			
147B2:														
Clarence	0-8	1-15	45-72	27-40	1.20-1.45	0.2-0.6	0.16-0.20	3.0-5.9	2.0-4.0	.24	.24	3	6	48
	8-35	1-15	25-49	50-60	1.40-1.60	0.0-0.06	0.07-0.09	3.0-5.9	0.0-1.0	.32	.32			
	35-60	1-15	25-59	40-60	1.65-1.85	0.0-0.06	0.03-0.07	3.0-5.9	0.0-0.5	.37	.37			
147C2:														
Clarence	0-9	1-15	45-72	27-40	1.20-1.45	0.2-0.6	0.16-0.20	3.0-5.9	2.0-4.0	.24	.24	3	6	48
	9-28	1-15	25-49	50-60	1.40-1.60	0.0-0.06	0.07-0.09	3.0-5.9	0.0-1.0	.32	.32			
	28-60	1-15	25-59	40-60	1.65-1.85	0.0-0.06	0.03-0.07	3.0-5.9	0.0-0.5	.37	.37			
148A:														
Proctor	0-11	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	11-31	0-10	55-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	31-38	15-70	0-67	18-32	1.30-1.55	0.6-2	0.13-0.16	3.0-5.9	0.2-1.0	.32	.32			
	38-60	15-85	0-80	5-20	1.40-1.70	0.6-6	0.07-0.19	0.0-2.9	0.2-0.5	.28	.28			
148B:														
Proctor	0-11	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	11-28	0-10	55-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	28-33	30-70	0-50	18-30	1.30-1.55	0.6-2	0.13-0.16	3.0-5.9	0.2-1.0	.32	.32			
	33-60	30-85	0-50	5-20	1.40-1.70	0.6-6	0.07-0.19	0.0-2.9	0.2-0.5	.28	.28			
148C2:														
Proctor	0-8	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.5	.37	.37	5	6	48
	8-32	0-10	55-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	32-48	20-70	0-64	16-35	1.30-1.55	0.6-6	0.13-0.16	3.0-5.9	0.2-1.0	.32	.32			
	48-60	15-85	0-75	10-20	1.40-1.70	0.6-6	0.07-0.19	0.0-2.9	0.2-0.5	.28	.28			
149A:														
Brenton	0-14	2-15	58-82	15-27	1.25-1.45	0.6-2	0.16-0.22	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	14-33	2-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.5-1.5	.37	.37			
	33-45	40-55	30-45	15-27	1.50-1.70	0.6-2	0.13-0.17	0.0-2.9	0.2-0.5	.32	.32			
	45-80	15-50	28-65	10-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
150B:														
Onarga--------------	0-13	50-75	10-42	8-15	1.30-1.65	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.17	.17	5	3	86
	13-29	45-75	7-43	12-18	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	29-60	65-95	0-33	2-10	1.65-1.85	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
150C2:														
Onarga--------------	0-7	50-75	10-42	8-15	1.30-1.65	0.6-6	0.14-0.18	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	7-27	45-75	7-43	12-18	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	27-64	65-95	0-33	2-10	1.65-1.85	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
152A:														
Drummer-------------	0-14	3-15	50-70	27-35	1.20-1.40	0.6-2	0.12-0.18	3.0-5.9	4.5-7.0	.24	.24	5	6	48
	14-41	3-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.8-2.0	.37	.37			
	41-47	25-45	28-50	20-27	1.45-1.65	0.6-2	0.11-0.17	0.0-2.9	0.2-0.5	.32	.32			
	47-60	45-65	25-45	10-20	1.55-1.75	0.6-2	0.11-0.17	0.0-2.9	0.1-0.3	.24	.24			
153A:														
Pella---------------	0-12	0-15	50-73	27-35	1.10-1.30	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.24	.24	5	6	48
	12-33	0-15	50-73	27-35	1.20-1.45	0.6-2	0.21-0.24	3.0-5.9	0.5-2.0	.37	.37			
	33-42	10-55	15-75	15-30	1.35-1.60	0.6-2	0.15-0.20	3.0-5.9	0.2-0.5	.32	.32			
	42-60	15-80	0-75	10-30	1.40-1.70	0.6-6	0.10-0.22	0.0-2.9	0.0-0.2	.28	.28			
154A:														
Flanagan------------	0-18	2-7	66-78	20-27	1.25-1.45	0.6-2	0.16-0.22	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	18-38	2-7	53-63	35-40	1.30-1.50	0.2-0.6	0.11-0.17	6.0-8.9	0.5-1.8	.37	.37			
	38-45	3-15	50-73	24-35	1.30-1.50	0.6-2	0.13-0.19	3.0-5.9	0.1-0.5	.37	.37			
	45-49	15-30	45-65	20-27	1.40-1.60	0.6-2	0.13-0.19	0.0-2.9	0.1-0.5	.37	.37			
	49-60	30-50	28-50	10-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.5	.37	.37			
171B:														
Catlin--------------	0-11	0-8	65-82	18-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	2.5-4.0	.28	.28	5	6	48
	11-45	0-8	57-76	24-35	1.25-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-1.5	.37	.37			
	45-57	20-45	20-53	20-35	1.40-1.70	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
	57-70	20-50	28-50	10-27	1.60-1.85	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.5	.37	.37			
182A:														
Peotone-------------	0-21	0-10	50-70	30-40	1.20-1.40	0.2-0.6	0.18-0.30	6.0-8.9	7.0-15	.28	.28	5	4	86
	21-56	0-10	45-65	35-45	0.80-1.50	0.06-0.6	0.25-0.35	6.0-8.9	7.0-15	.28	.28			
	56-64	---	---	---	0.33-1.50	0.06-0.2	0.11-0.15	0.0-2.9	4.0-20	---	---			
198A:														
Elburn--------------	0-16	2-7	66-76	22-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	16-49	2-7	58-73	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	49-58	30-55	30-55	15-20	1.45-1.65	0.6-2	0.14-0.17	0.0-2.9	0.1-0.5	.37	.37			
	58-62	60-80	10-25	5-15	1.50-1.70	2-6	0.06-0.10	0.0-2.9	0.1-0.5	.24	.24			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
199B:														
Plano---------------	0-15	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	15-45	0-10	55-80	20-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.2-1.0	.37	.37			
	45-55	30-70	10-50	15-32	1.50-1.70	0.6-6	0.09-0.16	0.0-2.9	0.1-0.5	.28	.28			
	55-80	39-89	3-51	5-20	1.60-1.80	2-6	0.09-0.14	0.0-2.9	0.1-0.5	.20	.20			
221B2:														
Parr----------------	0-8	5-35	50-80	12-25	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.28	.28	5	5	56
	8-34	20-50	15-53	22-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.2-0.5	.32	.32			
	34-60	35-50	30-50	10-20	1.70-1.90	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.2	.37	.37			
221C3:														
Parr----------------	0-8	20-40	25-53	27-35	1.40-1.60	0.6-2	0.17-0.19	3.0-5.9	0.5-2.0	.32	.32	4	6	48
	8-37	20-50	15-53	22-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.2-0.5	.32	.32			
	37-60	35-50	30-50	10-20	1.70-1.90	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.2	.37	.37			
223B2:														
Varna---------------	0-7	5-20	53-75	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.28	.28	4	6	48
	7-26	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	26-38	5-20	35-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	38-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
223C2:														
Varna---------------	0-9	5-20	53-75	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.28	.28	4	6	48
	9-29	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	29-50	5-20	35-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	50-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
223D2:														
Varna---------------	0-9	5-20	53-75	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.28	.28	4	6	48
	9-31	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	31-36	5-20	35-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	36-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
224G:														
Strawn--------------	0-2	5-35	50-80	15-25	1.25-1.45	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	2-7	5-35	40-80	15-25	1.25-1.45	0.6-2	0.20-0.24	0.0-2.9	0.5-1.5	.37	.37			
	7-15	18-45	23-60	22-32	1.40-1.60	0.6-2	0.15-0.20	3.0-5.9	0.2-1.0	.32	.32			
	15-60	20-50	20-52	20-30	1.55-1.75	0.2-0.6	0.08-0.12	0.0-2.9	0.2-0.5	.37	.37			
230A:														
Rowe----------------	0-14	0-15	45-70	30-40	1.30-1.55	0.06-0.2	0.16-0.20	3.0-5.9	3.0-5.0	.20	.20	5	4	86
	14-48	0-15	25-52	48-60	1.30-1.60	0.0-0.06	0.09-0.13	6.0-8.9	0.2-2.0	.32	.32			
	48-63	0-15	35-60	40-50	1.45-1.75	0.0-0.06	0.03-0.07	6.0-8.9	0.0-1.0	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
232A:														
Ashkum--------------	0-12	1-15	45-64	35-40	1.20-1.45	0.2-0.6	0.18-0.21	6.0-8.9	3.0-7.0	.20	.20	5	4	86
	12-29	2-15	40-63	35-45	1.30-1.50	0.2-0.6	0.15-0.18	6.0-8.9	0.5-2.5	.32	.32			
	29-54	5-20	40-65	30-40	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	54-60	5-20	45-68	27-35	1.55-1.75	0.2-0.6	0.07-0.15	3.0-5.9	0.0-0.5	.43	.43			
233B:														
Birkbeck------------	0-4	2-7	66-80	18-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	4-9	2-7	66-83	15-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.3-1.0	.49	.49			
	9-54	2-7	58-71	27-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.2-0.5	.37	.37			
	54-60	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
	60-68	30-50	28-50	17-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.5	.37	.37			
235A:														
Bryce---------------	0-13	2-15	40-58	40-50	1.30-1.50	0.2-0.6	0.12-0.16	6.0-8.9	4.0-7.0	.17	.17	5	4	86
	13-45	5-20	28-53	42-52	1.35-1.60	0.06-0.2	0.09-0.13	6.0-8.9	0.5-3.0	.32	.32			
	45-58	5-20	20-55	40-60	1.50-1.70	0.02-0.06	0.07-0.11	6.0-8.9	0.1-0.5	.32	.32			
	58-66	5-20	25-57	38-55	1.60-1.75	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
236A:														
Sabina--------------	0-8	2-10	63-78	18-27	1.25-1.55	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	8-12	2-10	65-80	18-25	1.35-1.55	0.2-0.6	0.20-0.22	0.0-2.9	0.1-1.0	.55	.55			
	12-43	2-10	48-63	35-42	1.35-1.55	0.2-0.6	0.15-0.19	6.0-8.9	0.1-1.0	.37	.37			
	43-50	15-35	30-65	20-35	1.50-1.75	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	50-80	20-40	28-65	15-32	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.32	.32			
238A:														
Rantoul-------------	0-17	0-10	40-60	40-50	1.35-1.55	0.2-0.6	0.12-0.23	6.0-8.9	4.0-7.0	.20	.20	5	4	86
	17-40	0-15	25-58	42-60	1.45-1.65	0.02-0.06	0.09-0.13	6.0-8.9	0.5-3.0	.32	.32			
	40-60	0-20	25-65	35-55	1.50-1.70	0.02-0.06	0.08-0.18	6.0-8.9	0.0-1.0	.37	.37			
241D3:														
Chatsworth----------	0-2	0-10	30-60	40-60	1.35-1.60	0.02-0.06	0.09-0.16	3.0-5.9	0.5-1.0	.32	.32	2	4	86
	2-22	0-10	30-65	35-60	1.50-1.70	0.02-0.06	0.05-0.07	3.0-5.9	0.0-0.5	.32	.32			
	22-60	5-15	35-60	35-50	1.70-1.90	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
242A:														
Kendall-------------	0-7	0-10	65-86	14-25	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-11	0-10	65-86	14-25	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.1-1.0	.49	.49			
	11-51	0-10	55-73	27-35	1.30-1.50	0.6-2	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	51-58	30-50	33-50	15-27	1.45-1.55	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
	58-80	30-55	25-50	10-20	1.55-1.75	0.6-2	0.11-0.15	0.0-2.9	0.1-0.3	.32	.32			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
291B:														
Xenia---------------	0-4	2-15	58-82	15-27	1.25-1.50	0.6-2	0.19-0.25	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	4-10	2-15	58-82	15-27	1.35-1.55	0.6-2	0.16-0.22	0.0-2.9	0.5-1.0	.49	.49			
	10-37	2-15	50-74	23-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.2-0.8	.37	.37			
	37-57	20-45	25-53	20-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	57-72	30-50	30-50	12-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.3	.37	.37			
293A:														
Andres--------------	0-11	10-30	50-70	20-27	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	3.5-5.0	.24	.24	5	6	48
	11-36	15-50	15-58	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.32			
	36-50	5-20	45-68	27-35	1.55-1.75	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	50-60	5-20	45-73	22-35	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
294B:														
Symerton------------	0-15	10-30	50-70	20-27	1.30-1.50	0.6-2	0.17-0.21	0.0-2.9	2.5-4.0	.24	.24	5	6	48
	15-19	10-20	45-63	27-35	1.40-1.60	0.6-2	0.17-0.22	3.0-5.9	1.0-3.0	.24	.24			
	19-35	25-50	15-50	24-35	1.45-1.70	0.6-2	0.10-0.15	3.0-5.9	0.1-1.0	.28	.32			
	35-39	2-20	45-74	24-35	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	39-60	2-20	48-78	20-32	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
295A:														
Mokena--------------	0-5	10-30	50-70	20-27	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	3.5-5.0	.24	.24	4	6	48
	5-15	25-45	28-50	20-27	1.40-1.55	0.6-2	0.17-0.21	0.0-2.9	3.0-4.0	.24	.24			
	15-38	20-50	15-53	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.32			
	38-42	1-20	20-59	40-60	1.55-1.75	0.06-0.2	0.05-0.12	6.0-8.9	0.1-0.5	.32	.32			
	42-60	1-20	20-59	40-60	1.65-1.85	0.02-0.06	0.03-0.07	3.0-5.0	0.0-0.5	.37	.37			
330A:														
Peotone-------------	0-13	0-10	50-67	33-40	1.20-1.40	0.2-0.6	0.21-0.23	6.0-8.9	5.0-7.0	.24	.24	5	4	86
	13-50	0-10	45-65	35-45	1.30-1.60	0.2-0.6	0.11-0.20	6.0-8.9	0.5-3.0	.37	.37			
	50-60	0-20	38-75	25-42	1.40-1.65	0.2-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.43	.43			
387B:														
Ockley--------------	0-10	10-30	50-79	11-22	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	4	5	56
	10-35	8-30	36-70	22-34	1.45-1.60	0.6-2	0.15-0.22	3.0-5.9	0.1-1.0	.32	.32			
	35-45	25-70	0-55	10-32	1.40-1.55	0.6-2	0.06-0.11	3.0-5.9	0.0-0.5	.28	.32			
	45-60	80-90	5-18	2-5	1.60-1.80	20-100	0.02-0.04	0.0-2.9	0.0-0.2	.02	.05			
440A:														
Jasper--------------	0-11	30-50	28-50	12-25	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.24	.24	5	5	56
	11-30	15-55	13-65	20-32	1.40-1.60	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.32	.32			
	30-47	45-65	5-43	12-30	1.40-1.60	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.28	.28			
	47-60	30-90	0-65	5-20	1.50-1.70	0.6-6	0.10-0.21	0.0-2.9	0.0-0.5	.24	.24			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
440B:														
Jasper---------------	0-12	30-50	28-50	12-25	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.24	.24	5	5	56
	12-26	15-55	13-65	20-32	1.40-1.60	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.32	.32			
	26-50	45-65	5-43	12-30	1.40-1.60	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.28	.28			
	50-60	30-90	0-65	5-20	1.50-1.70	0.6-6	0.10-0.21	0.0-2.9	0.0-0.5	.24	.24			
440C2:														
Jasper---------------	0-8	30-50	28-50	12-25	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	2.5-4.0	.28	.28	5	5	56
	8-23	15-55	13-65	20-32	1.40-1.60	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.32	.32			
	23-42	45-65	5-43	12-30	1.40-1.60	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.28	.28			
	42-60	30-90	0-65	5-20	1.50-1.70	0.6-6	0.10-0.21	0.0-2.9	0.0-0.5	.24	.24			
448B:														
Mona-----------------	0-11	0-15	58-80	20-27	1.10-1.30	0.6-2	0.17-0.24	0.0-2.9	2.5-4.0	.24	.24	4	6	48
	11-39	15-50	15-60	25-35	1.35-1.55	0.2-0.6	0.15-0.20	3.0-5.9	0.2-0.5	.32	.32			
	39-44	0-10	40-60	40-50	1.40-1.65	0.06-0.2	0.05-0.08	6.0-8.0	0.2-0.5	.32	.32			
	44-60	0-10	40-60	40-50	1.70-1.90	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
481A:														
Raub-----------------	0-18	2-15	58-82	15-27	1.30-1.50	0.6-2	0.16-0.22	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	18-32	2-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.5-1.5	.37	.37			
	32-50	20-35	30-53	26-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.2-0.5	.32	.32			
	50-60	30-50	28-50	20-30	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.5	.37	.37			
490A:														
Odell----------------	0-11	10-30	43-72	18-27	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	4.0-5.0	.24	.24	5	6	48
	11-26	15-45	20-60	25-35	1.50-1.70	0.6-2	0.15-0.19	3.0-5.9	0.2-1.0	.32	.32			
	26-60	30-50	30-60	10-20	1.60-1.85	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.2	.37	.37			
496A:														
Fincastle------------	0-10	2-10	63-83	15-27	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-14	3-15	58-82	15-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.1-1.0	.49	.49			
	14-35	3-15	50-70	23-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	35-43	20-40	28-53	25-32	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.32	.32			
	43-49	25-40	30-53	18-30	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.32	.32			
	49-60	30-50	30-50	12-20	1.65-1.85	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.5	.37	.37			
496B2:														
Fincastle------------	0-7	2-10	63-83	15-27	1.35-1.55	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	7-31	3-15	50-74	23-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	31-44	20-40	28-53	25-32	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.32	.32			
	44-53	25-40	30-53	18-30	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.32	.32			
	53-60	30-50	30-50	12-20	1.65-1.85	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.5	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
530C2:														
Ozaukee-------------	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	4	6	48
	6-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	21-28	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	28-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530D2:														
Ozaukee-------------	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	4	6	48
	6-20	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	20-28	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	28-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530D3:														
Ozaukee-------------	0-9	5-15	45-68	27-40	1.45-1.60	0.2-0.6	0.10-0.21	3.0-5.9	0.5-1.0	.37	.37	3	6	48
	9-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	21-25	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	25-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530E2:														
Ozaukee-------------	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	4	6	48
	6-27	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	27-31	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	31-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530F:														
Ozaukee-------------	0-5	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	4	6	48
	5-29	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	29-36	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	36-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530G:														
Ozaukee-------------	0-4	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	4	6	48
	4-8	5-15	58-80	15-27	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37	.37			
	8-24	5-15	48-65	30-37	1.60-1.70	0.2-0.6	0.16-0.20	3.0-5.9	0.2-0.5	.37	.37			
	24-29	5-20	45-68	27-35	1.65-1.75	0.06-0.6	0.15-0.19	3.0-5.9	0.1-0.5	.37	.37			
	29-60	5-23	42-70	25-35	1.70-1.90	0.06-0.2	0.08-0.14	0.0-2.9	0.0-0.5	.43	.43			
533:														
Urban land----------	---	---	---	---	---	---	---	---	---	---	---	--	8	0
536.														
Dumps														

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
549G:														
Marseilles----------	0-3	5-50	28-80	12-25	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	3-6	5-45	30-80	12-25	1.20-1.40	0.6-2	0.19-0.23	0.0-2.9	0.2-1.0	.37	.37			
	6-12	2-15	55-80	16-30	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	0.2-1.0	.37	.37			
	12-23	0-20	50-80	20-35	1.35-1.60	0.2-2	0.12-0.17	3.0-5.9	0.0-0.5	.43	.43			
	23-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
570B:														
Martinsville--------	0-9	12-40	50-79	8-20	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	9-12	12-40	50-79	8-20	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	0.1-1.0	.55	.55			
	12-45	20-50	20-50	20-33	1.50-1.70	0.6-2	0.11-0.15	3.0-5.9	0.1-0.5	.32	.32			
	45-57	26-60	17-50	15-25	1.55-1.75	0.6-2	0.12-0.16	0.0-2.9	0.1-0.3	.32	.32			
	57-80	35-95	12-50	5-15	1.55-1.75	2-6	0.09-0.13	0.0-2.9	0.1-0.2	.28	.28			
570C2:														
Martinsville--------	0-9	30-50	35-50	12-20	1.40-1.60	0.6-2	0.13-0.17	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	9-45	20-50	20-50	20-33	1.50-1.70	0.6-2	0.11-0.15	3.0-5.9	0.1-0.5	.32	.32			
	45-57	26-60	17-50	15-25	1.55-1.75	0.6-2	0.12-0.16	0.0-2.9	0.1-0.3	.32	.32			
	57-80	45-95	12-50	5-15	1.55-1.75	0.6-6	0.09-0.13	0.0-2.9	0.1-0.2	.28	.28			
570D2:														
Martinsville--------	0-9	30-50	35-50	12-20	1.40-1.60	0.6-2	0.13-0.17	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	9-45	20-50	20-50	20-33	1.50-1.70	0.6-2	0.11-0.15	3.0-5.9	0.1-0.5	.32	.32			
	45-69	26-60	17-50	15-25	1.55-1.75	0.6-2	0.12-0.16	0.0-2.9	0.1-0.3	.32	.32			
	69-80	45-90	12-50	5-15	1.55-1.75	0.6-6	0.09-0.13	0.0-2.9	0.1-0.2	.28	.28			
570F:														
Martinsville--------	0-5	30-50	30-50	12-20	1.35-1.45	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	5-10	30-50	30-50	10-20	1.35-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.37	.37			
	10-34	20-50	17-60	20-33	1.40-1.60	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.32	.32			
	34-44	30-60	15-55	10-25	1.40-1.60	0.6-2	0.12-0.17	0.0-2.9	0.0-0.2	.32	.32			
	44-60	40-90	0-55	5-20	1.50-1.70	0.6-6	0.08-0.17	0.0-2.9	0.0-0.2	.28	.28			
571A:														
Whitaker------------	0-10	30-50	30-50	12-20	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	10-47	18-55	15-52	20-35	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.5-1.0	.32	.32			
	47-54	35-65	15-50	10-25	1.45-1.65	0.6-2	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	54-60	30-85	5-55	5-18	1.50-1.70	0.6-6	0.08-0.17	0.0-2.9	0.0-0.5	.24	.24			
618C2:														
Senachwine----------	0-6	15-20	53-65	20-27	1.35-1.55	0.6-2	0.18-0.20	0.0-2.9	0.5-2.0	.32	.32	5	6	48
	6-12	15-21	45-58	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	12-27	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	27-60	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
618C3:														
Senachwine----------	0-4	20-40	25-53	27-35	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.3-1.0	.32	.32	4	6	48
	4-33	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.24	.28			
	33-60	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.37	.43			
618D2:														
Senachwine----------	0-6	15-20	53-65	20-27	1.35-1.55	0.6-2	0.18-0.20	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	6-15	15-21	45-58	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	15-28	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.28	.32			
	28-34	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.28	.32			
	34-60	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.37	.43			
618E2:														
Senachwine----------	0-6	5-35	43-84	11-22	1.20-1.55	0.6-2	0.22-0.24	0.0-2.9	1.0-2.5	.32	.32	5	5	56
	6-28	15-40	25-58	27-35	1.40-1.70	0.6-2	0.15-0.19	3.0-5.9	0.1-0.5	.32	.32			
	28-34	20-40	30-60	20-30	1.60-1.80	0.2-0.6	0.11-0.17	3.0-5.9	0.0-0.5	.32	.32			
	34-60	30-50	30-50	10-20	1.60-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
618F:														
Senachwine----------	0-11	15-40	50-72	10-20	1.40-1.60	0.6-2	0.16-0.22	0.0-2.9	1.0-2.5	.37	.37	5	5	56
	11-17	15-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.3-0.8	.32	.32			
	17-32	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.24	.28			
	32-40	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.37			
	40-60	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.37	.43			
623A:														
Kishwaukee----------	0-11	5-30	50-80	12-22	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.24	.24	5	5	56
	11-54	10-40	28-70	20-32	1.40-1.60	0.6-2	0.15-0.20	3.0-5.9	0.2-2.0	.32	.32			
	54-64	80-97	0-19	1-5	1.60-1.80	20-100	0.02-0.04	0.0-2.9	0.0-1.0	.02	.05			
687B:														
Penfield------------	0-10	30-50	28-60	10-22	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.24	.24	5	5	56
	10-61	15-55	13-67	18-32	1.40-1.60	0.6-2	0.16-0.18	3.0-5.9	0.2-1.0	.32	.32			
	61-72	45-65	5-43	12-30	1.40-1.60	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.28	.28			
	72-80	15-90	0-80	5-20	1.50-1.70	0.6-6	0.10-0.21	0.0-2.9	0.0-0.5	.24	.24			
758A:														
Haskins-------------	0-9	30-50	30-50	12-20	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	9-13	30-50	30-50	12-20	1.35-1.50	0.6-2	0.19-0.23	0.0-2.9	0.2-1.0	.37	.37			
	13-39	20-55	10-53	24-35	1.45-1.65	0.6-2	0.14-0.20	3.0-5.9	0.2-0.5	.32	.32			
	39-61	5-20	40-68	27-40	1.55-1.75	0.2-0.6	0.14-0.18	3.0-5.9	0.0-0.5	.37	.37			
	61-78	5-25	42-70	24-38	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
802B:														
Orthents, loamy-----	0-6	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	6-60	20-52	25-58	22-30	1.70-1.80	0.2-0.6	0.12-0.20	3.0-5.9	0.2-1.0	.43	.43			
802F:														
Orthents, loamy-----	0-6	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	6-60	20-52	25-58	22-30	1.70-1.80	0.2-0.6	0.12-0.20	3.0-5.9	0.2-1.0	.43	.43			
864.														
Pits, quarry														
865.														
Pits, gravel														
871B:														
Lenzburg------------	0-5	15-50	23-65	20-27	1.30-1.60	0.6-2	0.17-0.20	0.0-2.9	0.5-2.0	.32	.32	5	4L	86
	5-37	15-50	15-65	20-35	1.30-1.60	0.2-0.6	0.15-0.18	3.0-5.9	0.2-1.0	.37	.43			
	37-80	15-50	15-65	20-35	1.40-1.70	0.2-0.6	0.11-0.17	3.0-5.9	0.2-1.0	.32	.43			
871G:														
Lenzburg------------	0-2	15-50	28-50	20-27	1.30-1.60	0.6-2	0.15-0.19	0.0-2.9	0.5-2.0	.28	.32	5	8	0
	2-60	15-50	15-65	20-35	1.40-1.70	0.2-0.6	0.11-0.17	3.0-5.9	0.0-1.0	.37	.43			
3107A:														
Sawmill-------------	0-10	3-15	58-70	27-35	1.25-1.45	0.6-2	0.12-0.18	3.0-5.9	4.5-7.0	.28	.28	5	6	48
	10-32	3-15	58-70	27-35	1.25-1.45	0.6-2	0.12-0.18	3.0-5.9	4.5-7.0	.28	.28			
	32-58	5-20	45-68	27-35	1.30-1.50	0.6-2	0.12-0.18	3.0-5.9	1.5-3.5	.32	.32			
	58-65	5-25	40-70	25-35	1.30-1.50	0.6-2	0.12-0.18	3.0-5.9	0.8-3.5	.32	.32			
3183A:														
Shaffton------------	0-13	25-45	30-50	15-27	1.40-1.60	0.6-2	0.15-0.19	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	13-44	20-45	25-52	18-30	1.45-1.65	0.6-2	0.13-0.17	0.0-2.9	0.5-1.5	.32	.32			
	44-60	45-80	17-34	5-15	1.55-1.75	2-6	0.08-0.14	0.0-2.9	0.2-1.0	.24	.24			
3302A:														
Ambraw--------------	0-11	20-45	28-50	18-27	1.30-1.50	0.6-2	0.15-0.19	0.0-2.9	3.0-5.0	.28	.28	5	6	48
	11-49	20-60	15-53	24-35	1.45-1.70	0.6-2	0.15-0.24	3.0-5.9	0.2-1.5	.28	.28			
	49-60	20-60	10-45	18-30	1.50-1.70	0.6-2	0.10-0.20	0.0-2.9	0.0-0.8	.28	.28			
3473A:														
Rossburg------------	0-21	5-25	48-80	15-27	1.20-1.45	0.6-2	0.19-0.24	0.0-2.9	4.0-5.0	.32	.32	5	6	48
	21-55	15-55	18-67	18-27	1.20-1.50	0.6-2	0.16-0.22	0.0-2.9	0.5-1.0	.32	.32			
	55-63	20-60	25-75	5-15	1.35-1.60	0.6-6	0.05-0.18	0.0-2.9	0.2-0.5	.28	.28			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
7304A:														
Landes--------------	0-16	52-75	5-41	7-20	1.40-1.60	2-6	0.13-0.20	0.0-2.9	1.0-2.5	.20	.20	4	3	86
	16-35	50-88	1-45	5-18	1.60-1.70	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.24	.24			
	35-60	50-94	1-48	2-15	1.60-1.80	6-20	0.05-0.15	0.0-2.9	0.0-0.5	.10	.10			
8304A:														
Landes--------------	0-16	52-75	5-41	7-20	1.40-1.60	2-6	0.13-0.20	0.0-2.9	1.0-2.5	.20	.20	4	3	86
	16-34	50-88	1-45	5-18	1.60-1.70	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.24	.24			
	34-62	50-94	1-48	2-15	1.60-1.80	6-20	0.05-0.15	0.0-2.9	0.0-0.5	.10	.10			
8473A:														
Rossburg------------	0-11	23-50	28-50	15-27	1.20-1.45	0.6-2	0.19-0.24	0.0-2.9	4.0-5.0	.32	.32	5	6	48
	11-55	15-55	18-67	18-27	1.20-1.50	0.6-2	0.16-0.22	0.0-2.9	0.5-1.0	.32	.32			
	55-60	20-60	25-75	5-15	1.35-1.60	0.6-6	0.05-0.18	0.0-2.9	0.2-0.5	.28	.28			
8674A:														
Dozaville-----------	0-18	5-15	60-75	18-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	18-59	5-15	61-75	18-24	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.49	.49			
	59-80	5-37	45-80	10-18	1.30-1.50	0.6-2	0.18-0.24	0.0-2.9	0.5-1.0	.49	.49			

Table 23.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
17A:					
Keomah	0-11	10-26	---	5.6-7.3	0
	11-18	9.0-24	---	5.1-7.3	0
	18-33	28-41	---	5.1-6.5	0
	33-51	16-29	---	5.1-6.5	0
	51-89	8.0-18	---	6.1-7.3	0
23A:					
Blount	0-7	13-20	---	5.1-7.3	0
	7-13	7.0-16	7.1-15	5.1-7.3	0
	13-26	17-26	---	4.5-6.5	0
	26-32	13-24	---	6.1-7.8	0-25
	32-60	13-21	---	7.4-8.4	15-35
23B2:					
Blount	0-4	11-18	---	5.1-7.3	0
	4-16	17-26	---	4.5-6.5	0
	16-31	13-24	---	6.1-7.8	0-25
	31-60	13-21	---	7.4-8.4	15-35
43A:					
Ipava	0-10	13-23	---	5.6-7.3	0
	10-18	22-29	---	5.6-7.3	0
	18-31	27-35	---	5.6-7.3	0
	31-50	20-27	---	6.6-7.8	0-5
	50-60	11-21	---	7.4-8.4	0-15
56B2:					
Dana	0-7	17-23	---	5.6-6.5	0
	7-34	21-28	---	5.1-7.3	0
	34-53	14-18	---	5.6-7.8	0-5
	53-60	7.6-14	---	7.4-8.4	15-40
59A:					
Lisbon	0-11	18-27	---	5.6-7.3	0
	11-36	16-25	---	5.6-7.8	0
	36-39	12-22	---	6.1-8.4	0-20
	39-70	9.0-16	---	7.4-8.4	15-40
67A:					
Harpster	0-18	23-29	---	7.9-8.4	15-40
	18-41	22-28	---	7.4-8.4	5-40
	41-56	12-22	---	7.9-8.4	5-40
	56-60	7.8-14	---	7.9-8.4	10-40
68A:					
Sable	0-19	26-33	---	5.6-7.3	0
	19-23	20-29	---	5.6-7.3	0
	23-47	15-23	---	5.6-7.8	0
	47-60	12-18	---	6.6-8.4	0-30
69A:					
Milford	0-9	26-36	---	5.6-7.3	0
	9-22	28-36	---	5.6-7.3	0
	22-50	22-29	---	5.6-7.8	0-10
	50-60	4.0-18	---	6.6-8.4	0-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
88B:					
Sparta	0-13	2.0-12	---	5.1-7.3	0
	13-71	1.0-6.0	---	5.1-7.3	0
	71-80	1.0-7.0	---	5.1-7.8	0
91A:					
Swygert	0-12	20-31	---	5.6-7.3	0
	12-26	20-31	---	5.6-7.3	0
	26-51	10-25	---	7.4-8.4	2-20
	51-60	9.0-20	---	7.9-8.4	15-30
91B2:					
Swygert	0-7	20-31	---	5.6-7.3	0
	7-30	20-31	---	5.6-7.3	0
	30-48	10-25	---	7.4-8.4	2-20
	48-60	9.0-20	---	7.9-8.4	15-30
91C2:					
Swygert	0-7	20-31	---	5.6-7.3	0
	7-18	20-31	---	5.6-7.3	0
	18-36	10-25	---	7.4-8.4	2-20
	36-60	9.0-20	---	7.9-8.4	15-30
102A:					
La Hogue	0-16	15-26	---	5.6-7.3	0
	16-32	13-25	---	5.1-7.3	0
	32-48	6.0-15	---	5.6-7.8	0
	48-60	3.0-13	---	6.1-7.8	0-10
125A:					
Selma	0-6	20-28	---	6.1-7.8	0
	6-13	22-31	---	6.1-7.8	0
	13-44	11-23	---	6.1-8.4	0-20
	44-80	7.0-20	---	6.6-8.4	0-20
131B:					
Alvin	0-8	7.0-11	---	4.5-7.3	0
	8-11	6.0-10	---	4.5-7.3	0
	11-25	9.0-12	---	4.5-7.3	0
	25-80	2.0-7.0	---	5.1-8.4	0-25
132A:					
Starks	0-10	12-22	---	5.1-7.3	0
	10-14	10-18	---	5.1-7.3	0
	14-31	16-23	---	5.1-6.5	0
	31-43	6.0-19	---	5.6-7.8	0-5
	43-60	3.0-19	---	6.1-8.4	0-10
134B:					
Camden	0-9	10-22	---	5.1-7.3	0
	9-14	9.0-18	---	5.1-7.3	0
	14-35	13-23	---	5.1-7.3	0
	35-62	10-19	---	5.1-7.3	0
	62-80	3.0-13	---	5.6-8.4	0-20
145B2:					
Saybrook	0-8	14-28	---	5.6-7.3	0
	8-28	17-23	---	5.1-7.3	0
	28-31	11-22	---	6.6-7.8	0-5
	31-60	4.0-16	---	7.4-8.4	15-40

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
146A:					
Elliott	0-6	16-32	---	5.6-7.3	0
	6-11	27-40	---	5.6-7.3	0
	11-16	17-38	---	6.1-7.3	0
	16-41	13-24	---	6.6-7.8	0-15
	41-60	11-22	---	7.4-8.4	10-35
146B2:					
Elliott	0-8	27-40	---	5.6-7.3	0
	8-14	15-36	---	6.1-7.3	0
	14-27	13-24	---	6.6-7.8	0-15
	27-60	11-22	---	7.4-8.4	10-35
146C2:					
Elliott	0-8	27-40	---	5.6-7.3	0
	8-17	15-36	---	6.1-7.3	0
	17-29	13-24	---	6.6-7.8	0-15
	29-60	11-22	---	7.4-8.4	10-35
147A:					
Clarence	0-11	19-30	---	5.6-7.3	0
	11-39	25-32	---	5.6-8.4	0-20
	39-60	20-31	---	7.4-8.4	5-30
147B2:					
Clarence	0-8	17-28	---	5.6-7.3	0
	8-35	25-32	---	5.6-8.4	0-20
	35-60	20-31	---	7.4-8.4	5-30
147C2:					
Clarence	0-9	17-28	---	5.6-7.3	0
	9-28	25-32	---	5.6-8.4	0-20
	28-60	20-31	---	7.4-8.4	5-30
148A:					
Proctor	0-11	17-24	---	5.1-7.8	0
	11-31	16-25	---	5.6-7.3	0
	31-38	11-21	---	5.6-7.3	0
	38-60	3.0-13	---	5.6-7.8	0-10
148B:					
Proctor	0-11	17-24	---	5.1-7.8	0
	11-28	16-25	---	5.6-7.3	0
	28-33	11-21	---	5.6-7.3	0
	33-60	3.0-13	---	5.6-7.8	0-10
148C2:					
Proctor	0-8	15-23	---	5.1-7.8	0
	8-32	16-25	---	5.6-7.3	0
	32-48	15-23	---	5.6-7.3	0
	48-60	4.0-12	---	6.1-7.8	0-10
149A:					
Brenton	0-14	13-23	---	5.6-6.5	0
	14-33	21-28	---	5.6-6.5	0
	33-45	7.9-14	---	6.1-7.3	0
	45-80	5.2-14	---	6.6-7.8	0-15
150B:					
Onarga	0-13	7.0-15	---	5.1-7.3	0
	13-29	7.0-13	---	4.5-7.3	0
	29-60	1.0-7.0	---	5.6-7.3	0

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
150C2:					
Onarga----------------	0-7	7.0-13	---	5.1-7.3	0
	7-27	7.0-13	6.4-9.8	4.5-7.3	0
	27-64	1.0-7.0	---	5.6-7.3	0
152A:					
Drummer---------------	0-14	23-30	---	5.6-7.3	0
	14-41	22-28	---	5.6-7.3	0
	41-47	10-14	---	6.6-7.8	0-5
	47-60	5.2-11	---	7.4-8.4	0-15
153A:					
Pella-----------------	0-12	24-33	---	6.1-7.8	0
	12-33	17-23	---	6.6-7.8	0-10
	33-42	9.0-19	---	7.4-8.4	5-30
	42-60	6.0-18	---	7.8-8.4	5-40
154A:					
Flanagan--------------	0-18	17-23	---	5.6-7.3	0
	18-38	26-31	---	5.6-7.3	0
	38-45	19-26	---	5.6-7.3	0
	45-49	15-21	---	6.1-7.8	0-10
	49-60	8.5-21	---	7.4-8.4	15-40
171B:					
Catlin----------------	0-11	16-24	---	5.1-7.3	0
	11-45	14-24	---	5.1-7.3	0
	45-57	12-22	---	6.1-7.8	0-5
	57-70	4.0-16	---	7.4-8.4	5-25
182A:					
Peotone---------------	0-21	32-55	---	5.6-7.3	0
	21-56	32-65	---	5.6-7.8	0
	56-64	1.0-10	---	7.4-8.4	30-80
198A:					
Elburn----------------	0-16	19-23	---	6.1-7.3	0
	16-49	20-28	---	5.6-7.8	0
	49-58	7.8-11	---	6.6-7.8	0-5
	58-62	2.6-8.0	---	6.6-7.8	0-15
199B:					
Plano-----------------	0-15	16-23	---	6.1-7.3	0
	15-45	16-27	---	5.1-7.3	0
	45-55	7.8-17	---	5.6-7.8	0
	55-80	2.6-11	---	5.6-8.4	0-20
221B2:					
Parr------------------	0-8	10-19	---	5.6-7.3	0
	8-34	11-19	---	5.6-7.3	0
	34-60	5.0-11	---	7.4-8.4	5-35
221C3:					
Parr------------------	0-8	14-20	---	5.6-7.3	0
	8-37	11-19	---	5.6-7.3	0
	37-60	5.0-11	---	7.4-8.4	5-35
223B2:					
Varna-----------------	0-7	14-20	---	5.6-7.3	0
	7-26	18-28	---	5.6-7.3	0
	26-38	15-25	---	7.4-8.4	0-15
	38-60	13-21	---	7.9-8.4	5-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
223C2:					
Varna----------------	0-9	14-20	---	5.6-7.3	0
	9-29	18-28	---	5.6-7.3	0
	29-50	15-25	---	7.4-8.4	0-15
	50-60	13-21	---	7.9-8.4	5-30
223D2:					
Varna----------------	0-9	14-20	---	5.6-7.3	0
	9-31	18-28	---	5.6-7.3	0
	31-36	15-25	---	7.4-8.4	0-15
	36-60	13-21	---	7.9-8.4	5-30
224G:					
Strawn---------------	0-2	8.1-14	---	5.6-7.3	0
	2-7	8.0-13	4.1-8.3	5.1-7.3	0
	7-15	12-17	---	5.6-7.8	0
	15-60	10-16	---	7.4-8.4	5-30
230A:					
Rowe-----------------	0-14	24-34	---	5.1-7.8	0
	14-48	29-40	---	6.1-8.4	0-20
	48-63	24-32	---	7.4-8.4	5-25
232A:					
Ashkum---------------	0-12	22-38	---	5.6-7.3	0
	12-29	22-39	---	6.1-7.8	0-5
	29-54	13-24	---	6.6-7.8	0-15
	54-60	11-22	---	7.4-8.4	10-25
233B:					
Birkbeck-------------	0-4	13-24	---	5.6-7.3	0
	4-9	9.0-24	7.9-14	4.5-6.5	0
	9-54	21-27	14-18	4.5-7.3	0
	54-60	7.0-17	---	6.1-7.8	0-5
	60-68	4.0-16	---	7.4-8.4	15-40
235A:					
Bryce----------------	0-13	30-42	---	5.6-7.8	0
	13-45	23-33	---	6.1-7.8	0-5
	45-58	21-33	---	7.4-8.4	0-15
	58-66	12-34	---	7.4-8.4	10-25
236A:					
Sabina---------------	0-8	17-23	---	5.6-7.3	0
	8-12	14-20	---	5.1-7.3	0
	12-43	25-32	---	4.5-7.3	0
	43-50	15-27	---	6.6-7.8	0-5
	50-80	11-24	---	7.4-8.4	0-25
238A:					
Rantoul--------------	0-17	32-44	---	6.1-7.3	0
	17-40	26-42	---	6.1-8.4	0-15
	40-60	21-35	---	7.4-8.4	5-25
241D3:					
Chatsworth-----------	0-2	21-32	---	6.1-8.4	0-20
	2-22	18-31	---	6.6-8.4	0-25
	22-60	17-26	---	7.4-8.4	5-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
242A:					
Kendall--------------	0-7	10-26	---	5.1-7.3	0
	7-11	8.0-20	---	5.1-7.3	0
	11-51	13-18	13-17	4.5-7.3	0
	51-58	9.0-19	---	5.1-7.8	0-15
	58-80	3.0-10	---	7.4-8.4	0-20
291B:					
Xenia----------------	0-4	11-23	---	5.6-7.3	0
	4-10	10-19	---	5.1-7.3	0
	10-37	14-23	---	5.1-7.3	0
	37-57	12-22	---	5.6-7.8	0-5
	57-72	6.0-13	---	7.4-8.4	15-40
293A:					
Andres---------------	0-11	10-22	---	5.6-7.3	0
	11-36	11-22	---	6.1-7.8	0-5
	36-50	13-24	---	6.6-8.4	0-15
	50-60	11-22	---	7.4-8.4	15-30
294B:					
Symerton-------------	0-15	10-22	---	5.6-7.3	0
	15-19	15-27	---	5.6-7.3	0
	19-35	8.0-22	---	5.6-7.8	0-5
	35-39	9.0-23	---	7.4-8.4	0-15
	39-60	9.0-23	---	7.4-8.4	5-30
295A:					
Mokena---------------	0-5	15-24	---	5.6-7.3	0
	5-15	13-21	---	5.6-7.3	0
	15-38	13-22	---	6.1-7.8	0
	38-42	20-31	---	6.1-8.4	0-15
	42-60	20-31	---	7.4-8.4	5-30
330A:					
Peotone--------------	0-13	30-38	---	5.6-7.8	0
	13-50	22-33	---	6.1-7.8	0
	50-60	15-26	---	6.6-8.4	0-15
387B:					
Ockley---------------	0-10	8.0-17	---	5.6-7.3	0
	10-35	11-19	---	5.1-6.5	0
	35-45	5.0-17	---	5.1-7.3	0
	45-60	1.0-3.0	---	7.4-8.4	10-40
440A:					
Jasper---------------	0-11	13-25	---	5.6-7.3	0
	11-30	13-22	---	5.1-7.3	0
	30-47	7.0-19	---	5.6-7.8	0-5
	47-60	3.0-13	---	6.1-8.4	0-25
440B:					
Jasper---------------	0-12	13-25	---	5.6-7.3	0
	12-26	13-22	---	5.1-7.3	0
	26-50	7.0-19	---	5.6-7.8	0-5
	50-60	3.0-13	---	6.1-8.4	0-25
440C2:					
Jasper---------------	0-8	12-23	---	5.6-7.3	0
	8-23	13-22	---	5.1-7.3	0
	23-42	7.0-19	---	5.6-7.8	0-5
	42-60	3.0-13	---	6.1-8.4	0-25

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
448B:					
Mona-----------------	0-11	16-26	---	6.1-7.8	0
	11-39	15-22	---	5.6-7.8	0-5
	39-44	24-31	---	7.4-8.4	5-30
	44-60	24-31	---	7.4-8.4	5-30
481A:					
Raub-----------------	0-18	16-32	---	5.6-7.3	0
	18-32	18-27	---	5.1-6.5	0
	32-50	12-24	---	6.1-7.8	0-5
	50-60	4.0-16	---	7.4-8.4	15-40
490A:					
Odell----------------	0-11	19-26	---	5.6-7.3	0
	11-26	15-23	---	5.6-7.3	0
	26-60	6.0-12	---	7.4-8.4	15-40
496A:					
Fincastle------------	0-10	11-22	---	5.1-7.3	0
	10-14	9.0-18	7.6-14	5.1-7.3	0
	14-35	14-22	13-18	5.1-6.5	0
	35-43	15-21	---	5.1-7.3	0
	43-49	10-19	---	6.6-8.4	0-10
	49-60	7.0-13	---	7.4-8.4	15-40
496B2:					
Fincastle------------	0-7	11-20	---	5.1-7.3	0
	7-31	14-22	---	5.1-6.5	0
	31-44	15-21	---	5.1-7.3	0
	44-53	10-19	---	6.6-8.4	0-10
	53-60	7.0-13	---	7.4-8.4	15-40
530C2:					
Ozaukee--------------	0-6	9.0-18	---	6.1-7.3	0
	6-21	20-26	---	6.1-7.3	0
	21-28	15-22	---	7.4-8.4	0-20
	28-60	13-19	---	7.9-8.4	10-40
530D2:					
Ozaukee--------------	0-6	9.0-18	---	6.1-7.3	0
	6-20	20-26	---	6.1-7.3	0
	20-28	15-22	---	7.4-8.4	0-20
	28-60	13-19	---	7.9-8.4	10-40
530D3:					
Ozaukee--------------	0-9	14-22	---	6.1-7.3	0
	9-21	20-26	---	6.1-7.3	0
	21-25	15-22	---	7.4-8.4	0-20
	25-60	13-19	---	7.9-8.4	10-40
530E2:					
Ozaukee--------------	0-6	9.0-18	---	6.1-7.3	0
	6-27	20-26	---	6.1-7.3	0
	27-31	15-22	---	7.4-8.4	0-20
	31-60	13-19	---	7.9-8.4	10-40
530F:					
Ozaukee--------------	0-5	9.0-20	---	6.1-7.3	0
	5-29	20-26	---	6.1-7.3	0
	29-36	15-22	---	7.4-8.4	0-20
	36-60	13-19	---	7.9-8.4	10-40

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
530G:					
Ozaukee--------------	0-4	9.0-20	---	6.1-7.3	0
	4-8	7.0-16	---	6.1-7.3	0
	8-24	15-20	---	6.1-7.3	0
	24-29	13-19	---	7.4-8.4	0-20
	29-60	12-19	---	7.9-8.4	10-40
533.					
Urban land					
536.					
Dumps					
549G:					
Marseilles-----------	0-3	8.0-19	---	5.1-7.3	0
	3-6	6.0-15	---	5.1-7.3	0
	6-12	8.0-17	---	5.6-7.3	0
	12-23	10-19	---	5.1-7.3	0
	23-60	---	---	---	---
570B:					
Martinsville---------	0-9	6.0-16	---	5.1-7.3	0
	9-12	4.2-11	3.1-7.7	5.1-7.3	0
	12-45	10-18	---	5.1-7.3	0
	45-57	7.8-13	---	5.1-7.8	0-15
	57-80	3.0-10	---	6.6-8.4	0-25
570C2:					
Martinsville---------	0-9	6.5-11	---	5.1-7.3	0
	9-45	10-17	---	5.1-7.3	0
	45-57	7.8-13	---	5.1-7.8	0-15
	57-80	2.6-7.9	---	6.6-8.4	0-25
570D2:					
Martinsville---------	0-9	8.0-14	---	5.1-7.3	0
	9-45	8.0-18	---	5.1-7.3	0
	45-69	6.0-15	---	5.1-7.8	0
	69-80	3.0-10	---	6.6-8.4	0-45
570F:					
Martinsville---------	0-5	7.0-16	---	5.1-7.3	0
	5-10	4.0-13	---	5.1-7.3	0
	10-34	7.0-18	---	5.1-7.3	0
	34-44	8.0-13	---	5.1-7.8	0
	44-60	3.0-10	---	6.1-8.4	0-45
571A:					
Whitaker-------------	0-10	8.0-16	---	5.6-7.3	0
	10-47	11-20	---	5.1-7.3	0
	47-54	5.0-14	---	5.6-7.8	0
	54-60	3.0-10	---	6.1-8.4	0-25
618C2:					
Senachwine-----------	0-6	11-15	---	5.6-7.3	0
	6-12	14-18	---	5.6-7.3	0
	12-27	14-18	---	5.1-7.3	0
	27-60	5.2-11	---	7.4-8.4	15-40
618C3:					
Senachwine-----------	0-4	14-19	---	5.6-7.3	0
	4-33	14-18	---	5.1-7.3	0
	33-60	5.1-11	---	7.4-8.4	15-40

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
618D2:					
Senachwine-----------	0-6	11-15	---	5.6-7.3	0
	6-15	14-18	---	5.6-7.3	0
	15-28	14-18	---	5.1-7.3	0
	28-34	10-14	---	5.1-7.3	0-5
	34-60	5.2-11	---	7.4-8.4	15-40
618E2:					
Senachwine-----------	0-6	8.0-16	---	5.6-7.3	0
	6-28	14-19	---	5.1-7.3	0
	28-34	10-16	---	6.6-7.8	0-15
	34-60	8.0-16	---	7.4-8.4	15-40
618F:					
Senachwine-----------	0-11	5.4-11	---	5.6-7.3	0
	11-17	14-19	---	5.1-7.3	0
	17-32	14-18	---	5.1-7.3	0
	32-40	10-14	---	6.6-7.8	0-5
	40-60	5.2-11	---	7.4-8.4	15-40
623A:					
Kishwaukee-----------	0-11	12-23	---	5.6-7.3	0
	11-54	13-23	---	5.1-7.3	0
	54-64	1.0-5.0	---	7.4-8.4	5-35
687B:					
Penfield-------------	0-10	12-23	---	5.1-7.3	0
	10-61	12-21	---	5.1-7.3	0
	61-72	7.0-19	---	5.6-7.8	0-5
	72-80	3.0-13	---	6.6-8.4	0-25
758A:					
Haskins--------------	0-9	8.0-16	---	5.1-7.3	0
	9-13	6.0-12	---	5.1-6.5	0
	13-39	12-19	---	5.1-7.3	0
	39-61	13-21	---	6.1-7.8	0-15
	61-78	12-20	---	7.4-8.4	5-30
802B:					
Orthents, loamy------	0-6	10-25	---	5.6-7.8	0-10
	6-60	10-20	---	5.6-8.4	0-20
802F:					
Orthents, loamy------	0-6	10-25	---	5.6-7.8	0-10
	6-60	10-20	---	5.6-8.4	0-20
864.					
Pits, quarry					
865.					
Pits, gravel					
871B:					
Lenzburg-------------	0-5	11-15	---	6.6-8.4	0-20
	5-37	10-19	---	6.6-8.4	0-25
	37-80	10-19	---	7.4-8.4	0-25
871G:					
Lenzburg-------------	0-2	13-24	---	6.6-8.4	0-20
	2-60	12-23	---	7.4-8.4	0-25

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate
	In	meq/100 g	meq/100 g	pH	Pct
3107A:					
Sawmill	0-10	23-30	---	6.1-7.8	0
	10-32	23-30	---	6.1-7.8	0
	32-58	22-29	---	6.1-7.8	0
	58-65	20-29	---	6.1-7.8	0-5
3183A:					
Shaffton	0-13	13-23	---	6.1-7.3	0
	13-44	15-24	---	6.1-7.3	0
	44-60	4.5-13	---	6.1-7.3	0
3302A:					
Ambraw	0-11	17-27	---	5.6-7.3	0
	11-49	14-24	---	5.6-7.3	0
	49-60	10-20	---	6.1-8.4	0-20
3473A:					
Rossburg	0-21	17-26	---	6.1-7.8	0
	21-55	12-18	---	6.1-7.8	0
	55-63	3.0-10	---	6.6-8.4	0-10
7304A:					
Landes	0-16	6.0-17	---	5.6-7.8	0
	16-35	4.0-13	---	5.6-7.8	0-10
	35-60	2.0-10	---	5.6-8.4	0-20
8304A:					
Landes	0-16	6.0-17	---	5.6-7.8	0
	16-34	4.0-13	---	5.6-7.8	0-10
	34-62	2.0-10	---	5.6-8.4	0-20
8473A:					
Rossburg	0-11	17-26	---	6.1-7.8	0
	11-55	12-18	---	6.1-7.8	0
	55-60	3.0-10	---	6.6-8.4	0-10
8674A:					
Dozaville	0-18	11-22	---	5.6-7.3	0
	18-59	12-18	---	5.6-7.3	0
	59-80	4.0-12	---	5.6-7.8	0-5

Table 24.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
17A:										
Keomah----------------	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
23A:										
Blount----------------	C	Jan-May	0.5-2.0	2.5-5.5	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
23B2:										
Blount----------------	C	Jan-May	0.5-2.0	2.5-5.5	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
43A:										
Ipava-----------------	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
56B2:										
Dana------------------	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.3-5.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
59A:										
Lisbon----------------	B	Jan-May	1.0-2.0	2.0-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
67A:										
Harpster--------------	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
68A:										
Sable-----------------	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
69A:										
Milford---------------	C/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
88B:										
Sparta----------------	A	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
91A:										
Swygert---------------	C	Jan-May	1.0-2.0	2.9-5.1	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
91B2:										
Swygert---------------	C	Jan-May	1.0-2.0	2.9-5.1	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
91C2:										
Swygert---------------	C	Jan-May	1.0-2.0	2.9-5.1	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
102A:										
La Hogue--------------	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
125A:										
Selma	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
131B:										
Alvin	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
132A:										
Starks	B	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
134B:										
Camden	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
145B2:										
Saybrook	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.1-3.5	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
146A:										
Elliott	C	Jan-May	1.0-2.0	1.7-4.3	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
146B2:										
Elliott	C	Jan-May	1.0-2.0	1.7-4.3	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
146C2:										
Elliott	C	Jan-May	1.0-2.0	1.7-4.3	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
147A:										
Clarence	D	Jan-May	1.0-2.0	2.0-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
147B2:										
Clarence	D	Jan-May	1.0-2.0	2.0-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
147C2:										
Clarence	D	Jan-May	1.0-2.0	2.0-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
148A:										
Proctor	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
148B:										
Proctor	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
148C2:										
Proctor	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
149A:										
Brenton	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
150B:										
Onarga	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
150C2:										
Onarga	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
152A:										
Drummer	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
153A:										
Pella	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
154A:										
Flanagan	B	Jan-May	1.0-2.0	3.7-5.9	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
171B:										
Catlin	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.7-5.4	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
182A:										
Peotone	C/D	Jan-Jun	0.0-1.0	>6.0	Apparent	0.0-1.0	Long	Frequent	---	None
		Jul-Dec	>6.0	>6.0	---	---	---	None	---	None
198A:										
Elburn	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
199B:										
Plano	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
221B2:										
Parr	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.1-3.8	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
221C3:										
Parr	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.1-3.8	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
223B2:										
Varna	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.2-5.5	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
223C2:										
Varna	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.2-5.5	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
223D2:										
Varna	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.2-5.5	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
224G:										
Strawn	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
230A:										
Rowe	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
232A:										
Ashkum----------------	C/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
233B:										
Birkbeck--------------	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.3-5.8	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
235A:										
Bryce-----------------	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
236A:										
Sabina----------------	C	Jan-May	0.5-2.0	3.7-6.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
238A:										
Rantoul---------------	D	Jan-Jun	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	None
		Jul-Dec	>6.0	>6.0	---	---	---	None	---	None
241D3:										
Chatsworth------------	D	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.2-4.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
242A:										
Kendall---------------	B	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
291B:										
Xenia-----------------	B	Jan-May	1.5-2.5	3.5-5.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
293A:										
Andres----------------	C	Jan-May	1.0-2.0	3.0-5.5	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
294B:										
Symerton--------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.5-4.7	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
295A:										
Mokena----------------	C	Jan-May	1.0-2.0	2.5-5.5	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
330A:										
Peotone---------------	C/D	Jan-Jun	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jul-Dec	>6.0	>6.0	---	---	---	None	---	None
387B:										
Ockley----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
440A:										
Jasper----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
440B:										
Jasper----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
440C2:										
Jasper----------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
448B:										
Mona------------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.5-5.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
481A:										
Raub------------------	B	Jan-May	1.0-2.0	3.3-5.8	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
490A:										
Odell-----------------	B	Jan-May	1.0-2.0	2.0-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
496A:										
Fincastle-------------	B	Jan-May	0.5-2.0	3.3-5.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
496B2:										
Fincastle-------------	B	Jan-May	0.5-2.0	3.3-5.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
530C2:										
Ozaukee---------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.2-4.3	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
530D2:										
Ozaukee---------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.2-4.3	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
530D3:										
Ozaukee---------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.2-4.3	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
530E2:										
Ozaukee---------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.2-4.3	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
530F:										
Ozaukee---------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.2-4.3	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
530G:										
Ozaukee---------------	C	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.2-4.3	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
533:										
Urban land------------	D	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
536.										
Dumps										
549G:										
Marseilles------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
570B:										
Martinsville----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
570C2:										
Martinsville----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
570D2:										
Martinsville----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
570F:										
Martinsville----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
571A:										
Whitaker--------------	B	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
618C2:										
Senachwine------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
618C3:										
Senachwine------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
618D2:										
Senachwine------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
618E2:										
Senachwine------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
618F:										
Senachwine------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
623A:										
Kishwaukee------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
687B:										
Penfield--------------	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	3.5-6.0	>6.0	Apparent	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
758A:										
Haskins---------------	C	Jan-May	0.5-2.0	3.5-5.5	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
802B:										
Orthents, loamy-------	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	3.5-5.0	3.7-5.5	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
802F:										
Orthents, loamy-------	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	3.5-5.0	3.7-5.5	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
864.										
Pits, quarry										
865.										
Pits, gravel										
871B:										
Lenzburg--------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
871G:										
Lenzburg--------------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind of water table	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft		Ft				
3107A:										
Sawmill	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	---	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	---	Brief	Frequent
3183A:										
Shaffton	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
3302A:										
Ambraw	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
3473A:										
Rossburg	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Frequent
7304A:										
Landes	B	Jan-Jun	>6.0	>6.0	---	---	---	None	---	Rare
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	---	Rare
8304A:										
Landes	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Occasional
8473A:										
Rossburg	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Occasional
8674A:										
Dozaville	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	None	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None	Brief	Occasional

Table 25.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
17A:						
Keomah	---	---	---	High	High	Moderate
23A:						
Blount	Dense material	30-48	Noncemented	High	High	High
23B2:						
Blount	Dense material	30-48	Noncemented	High	High	Low
43A:						
Ipava	---	---	---	High	High	Moderate
56B2:						
Dana	---	---	---	High	High	Moderate
59A:						
Lisbon	---	---	---	High	High	Moderate
67A:						
Harpster	---	---	---	High	High	Low
68A:						
Sable	---	---	---	High	High	Moderate
69A:						
Milford	---	---	---	High	High	Low
88B:						
Sparta	---	---	---	Low	Low	High
91A:						
Swygert	Dense material	35-55	Noncemented	Moderate	High	Low
91B2:						
Swygert	Dense material	35-55	Noncemented	Moderate	High	Low
91C2:						
Swygert	Dense material	35-55	Noncemented	Moderate	High	Low
102A:						
La Hogue	---	---	---	Moderate	High	Moderate
125A:						
Selma	---	---	---	High	High	Low
131B:						
Alvin	---	---	---	Moderate	Low	High
132A:						
Starks	---	---	---	High	High	Moderate
134B:						
Camden	---	---	---	High	Moderate	Moderate
145B2:						
Saybrook	---	---	---	High	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
146A:						
Elliott	Dense material	20-45	Noncemented	Moderate	High	Low
146B2:						
Elliott	Dense material	20-45	Noncemented	Moderate	High	Low
146C2:						
Elliott	Dense material	20-45	Noncemented	Moderate	High	Low
147A:						
Clarence	Dense material	25-40	Noncemented	Moderate	High	Moderate
147B2:						
Clarence	Dense material	25-40	Noncemented	Moderate	High	Moderate
147C2:						
Clarence	Dense material	25-40	Noncemented	Moderate	High	Moderate
148A:						
Proctor	---	---	---	High	Moderate	Moderate
148B:						
Proctor	---	---	---	High	Moderate	Moderate
148C2:						
Proctor	---	---	---	High	Moderate	Moderate
149A:						
Brenton	---	---	---	High	High	Moderate
150B:						
Onarga	---	---	---	Moderate	Low	High
150C2:						
Onarga	---	---	---	Moderate	Low	High
152A:						
Drummer	---	---	---	High	High	Moderate
153A:						
Pella	---	---	---	High	High	Low
154A:						
Flanagan	---	---	---	High	High	Moderate
171B:						
Catlin	---	---	---	High	High	Moderate
182A:						
Peotone	---	---	---	High	High	Moderate
198A:						
Elburn	---	---	---	High	High	Moderate
199B:						
Plano	---	---	---	High	Moderate	Moderate
221B2:						
Parr	---	---	---	Moderate	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
221C3:						
Parr-------------------	---	---	---	Moderate	High	Moderate
223B2:						
Varna------------------	Dense material	24-60	Noncemented	Moderate	High	Moderate
223C2:						
Varna------------------	Dense material	24-60	Noncemented	Moderate	High	Moderate
223D2:						
Varna------------------	Dense material	24-60	Noncemented	Moderate	High	Moderate
224G:						
Strawn-----------------	---	---	---	Moderate	Moderate	Low
230A:						
Rowe-------------------	---	---	---	High	High	Low
232A:						
Ashkum-----------------	---	---	---	High	High	Low
233B:						
Birkbeck---------------	---	---	---	High	High	High
235A:						
Bryce------------------	---	---	---	High	High	Low
236A:						
Sabina-----------------	---	---	---	High	High	High
238A:						
Rantoul----------------	---	---	---	High	High	Low
241D3:						
Chatsworth-------------	Dense material	10-24	Noncemented	Moderate	High	Low
242A:						
Kendall----------------	---	---	---	High	High	High
291B:						
Xenia------------------	---	---	---	High	High	Moderate
293A:						
Andres-----------------	---	---	---	Moderate	High	Low
294B:						
Symerton---------------	---	---	---	Moderate	High	Moderate
295A:						
Mokena-----------------	Dense material	30-60	Noncemented	Moderate	High	Low
330A:						
Peotone----------------	---	---	---	High	High	Low
387B:						
Ockley-----------------	---	---	---	Moderate	Moderate	Moderate
440A:						
Jasper-----------------	---	---	---	Moderate	Moderate	Moderate
440B:						
Jasper-----------------	---	---	---	Moderate	Moderate	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
440C2:						
Jasper	---	---	---	Moderate	Moderate	Moderate
448B:						
Mona	Dense material	36-54	Noncemented	Moderate	High	Moderate
481A:						
Raub	---	---	---	High	High	Moderate
490A:						
Odell	---	---	---	Moderate	High	Moderate
496A:						
Fincastle	---	---	---	High	High	Moderate
496B2:						
Fincastle	---	---	---	High	High	Moderate
530C2:						
Ozaukee	Dense material	20-45	Noncemented	Moderate	High	Low
530D2:						
Ozaukee	Dense material	20-45	Noncemented	Moderate	High	Low
530D3:						
Ozaukee	Dense material	20-45	Noncemented	Moderate	High	Low
530E2:						
Ozaukee	Dense material	20-45	Noncemented	Moderate	High	Low
530F:						
Ozaukee	Dense material	20-45	Noncemented	Moderate	High	Low
530G:						
Ozaukee	Dense material	20-45	Noncemented	High	High	Low
533.						
Urban land						
536.						
Dumps						
549G:						
Marseilles	Paralithic bedrock	20-40	Moderately cemented	High	Moderate	Moderate
570B:						
Martinsville	---	---	---	Moderate	Moderate	Moderate
570C2:						
Martinsville	---	---	---	Moderate	Moderate	Moderate
570D2:						
Martinsville	---	---	---	Moderate	Moderate	Moderate
570F:						
Martinsville	---	---	---	Moderate	Moderate	Moderate
571A:						
Whitaker	---	---	---	High	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
618C2:						
Senachwine	---	---	---	Moderate	Moderate	Moderate
618C3:						
Senachwine	---	---	---	Moderate	Moderate	Moderate
618D2:						
Senachwine	---	---	---	Moderate	Moderate	Moderate
618E2:						
Senachwine	---	---	---	Moderate	Moderate	Moderate
618F:						
Senachwine	---	---	---	Moderate	Moderate	Moderate
623A:						
Kishwaukee	---	---	---	Moderate	Moderate	Moderate
687B:						
Penfield	---	---	---	Moderate	Moderate	Moderate
758A:						
Haskins	---	---	---	High	High	Moderate
802B:						
Orthents, loamy	---	---	---	Moderate	Moderate	Moderate
802F:						
Orthents, loamy	---	---	---	Moderate	Moderate	Moderate
864.						
Pits, quarry						
865.						
Pits, gravel						
871B:						
Lenzburg	---	---	---	Moderate	Moderate	Low
871G:						
Lenzburg	---	---	---	Moderate	Moderate	Low
3107A:						
Sawmill	---	---	---	High	High	Low
3183A:						
Shaffton	---	---	---	Moderate	High	Low
3302A:						
Ambraw	---	---	---	High	High	Moderate
3473A:						
Rossburg	---	---	---	Moderate	Low	Low
7304A:						
Landes	---	---	---	Moderate	Low	Moderate
8304A:						
Landes	---	---	---	Moderate	Low	Moderate
8473A:						
Rossburg	---	---	---	Moderate	Low	Low

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
8674A:						
Dozaville--------------	---	---	---	High	Low	Moderate

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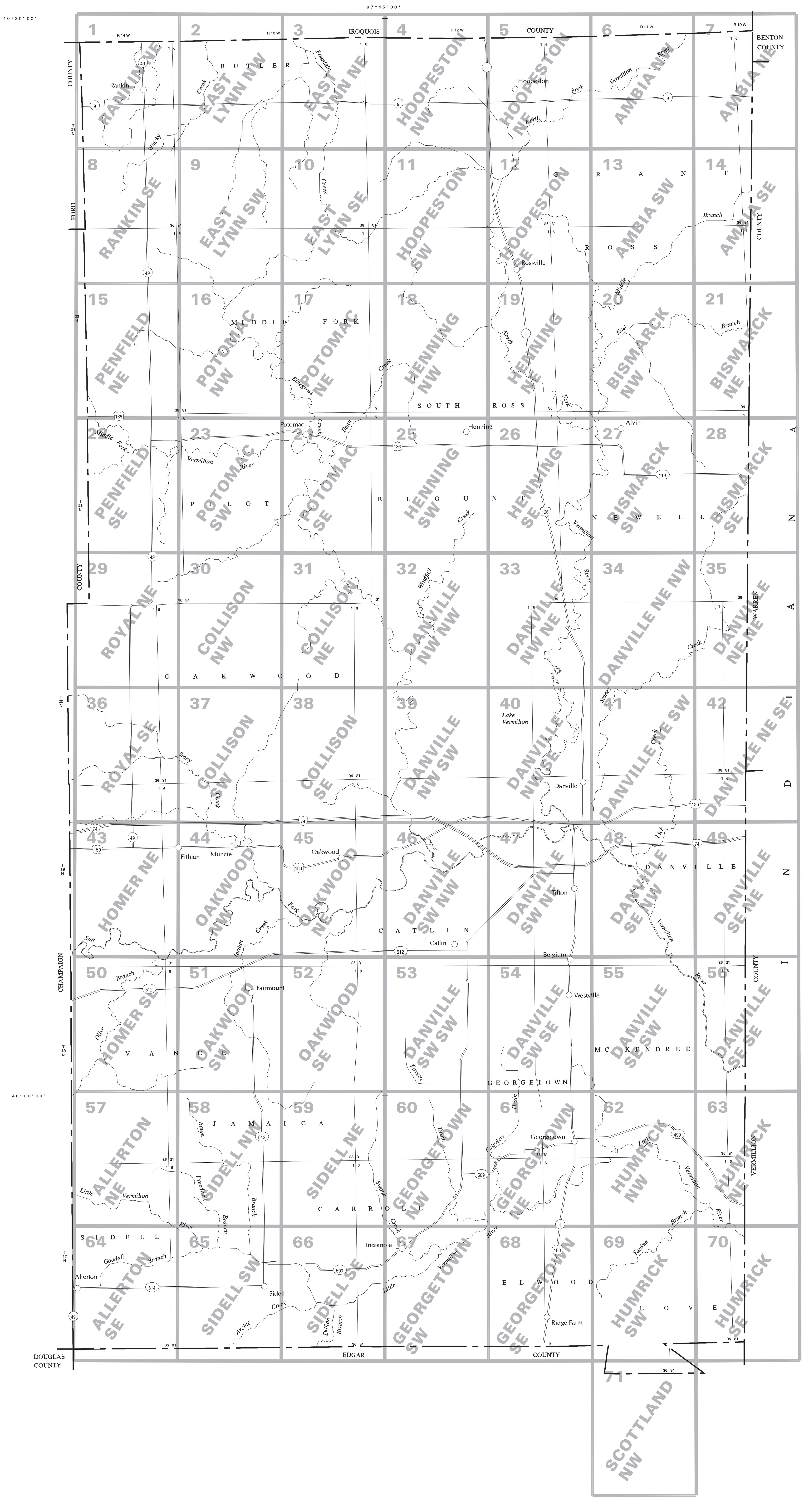


SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

INDEX TO MAP SHEETS
VERMILION COUNTY, ILLINOIS

MILES

KILOMETERS

SCALE = 1:120000

SOIL LEGEND

Map unit symbols consist of a combination of numbers and letters. The initial numbers represent the kind of soil or miscellaneous area. An uppercase letter following these numbers indicates the class of slope. A final number of 2 following the slope class letter indicates that the soil is moderately eroded, and a final number of 3 indicates that the soil is severely eroded. Symbols that do not have a final number of 2 or 3 following a slope class letter indicate map units that are not eroded or are only slightly eroded. Symbols for miscellaneous areas do not have a slope class letter.

SYMBOL	NAME
17A	Keomah silt loam, 0 to 2 percent slopes
23A	Blount silt loam, 0 to 2 percent slopes
23B2	Blount silt loam, 2 to 4 percent slopes, eroded
43A	Ipava silt loam, 0 to 2 percent slopes
56B2	Dana silt loam, 2 to 5 percent slopes, eroded
59A	Lisbon silt loam, 0 to 2 percent slopes
67A	Harpster silty clay loam, 0 to 2 percent slopes
68A	Sable silty clay loam, 0 to 2 percent slopes
69A	Milford silty clay loam, 0 to 2 percent slopes
88B	Sparta loamy fine sand, 1 to 6 percent slopes
91A	Swygert silty clay loam, 0 to 2 percent slopes
91B2	Swygert silty clay loam, 2 to 4 percent slopes, eroded
91C2	Swygert silty clay loam, 4 to 6 percent slopes, eroded
102A	La Hogue loam, 0 to 2 percent slopes
125A	Selma loam, 0 to 2 percent slopes
131B	Alvin fine sandy loam, 2 to 5 percent slopes
132A	Starks silt loam, 0 to 2 percent slopes
134B	Camden silt loam, 2 to 5 percent slopes
145B2	Saybrook silt loam, 2 to 5 percent slopes, eroded
146A	Elliott silt loam, 0 to 2 percent slopes
146B2	Elliott silty clay loam, 2 to 4 percent slopes, eroded
146C2	Elliott silty clay loam, 4 to 6 percent slopes, eroded
147A	Clarence silty clay loam, 0 to 2 percent slopes
147B2	Clarence silty clay loam, 2 to 4 percent slopes, eroded
147C2	Clarence silty clay loam, 4 to 6 percent slopes, eroded
148A	Proctor silt loam, 0 to 2 percent slopes
148B	Proctor silt loam, 2 to 5 percent slopes
148C2	Proctor silt loam, 5 to 10 percent slopes, eroded
149A	Brenton silt loam, 0 to 2 percent slopes
150B	Onarga fine sandy loam, 2 to 5 percent slopes
150C2	Onarga fine sandy loam, 5 to 10 percent slopes, eroded
152A	Drummer silty clay loam, 0 to 2 percent slopes
153A	Pella silty clay loam, 0 to 2 percent slopes
154A	Flanagan silt loam, 0 to 2 percent slopes
171B	Catlin silt loam, 2 to 5 percent slopes
182A	Peotone mucky silty clay loam, marly substratum, 0 to 2 percent slopes
198A	Elburn silt loam, 0 to 2 percent slopes
199B	Plano silt loam, 2 to 5 percent slopes
221B2	Parr silt loam, 2 to 5 percent slopes, eroded
221C3	Parr clay loam, 5 to 10 percent slopes, severely eroded
223B2	Varna silt loam, 2 to 4 percent slopes, eroded
223C2	Varna silt loam, 4 to 6 percent slopes, eroded
223D2	Varna silt loam, 6 to 12 percent slopes, eroded
224G	Strawn silt loam, 35 to 75 percent slopes
230A	Rowe silty clay loam, 0 to 2 percent slopes
232A	Ashkum silty clay loam, 0 to 2 percent slopes
233B	Birkbeck silt loam, 2 to 5 percent slopes
235A	Bryce silty clay, 0 to 2 percent slopes
236A	Sabina silt loam, 0 to 2 percent slopes
238A	Rantoul silty clay, 0 to 2 percent slopes
241D3	Chatsworth silty clay, 6 to 12 percent slopes, severely eroded
242A	Kendall silt loam, 0 to 2 percent slopes

SYMBOL	NAME
291B	Xenia silt loam, 2 to 5 percent slopes
293A	Andres silt loam, 0 to 2 percent slopes
294B	Symerton silt loam, 2 to 5 percent slopes
295A	Mokena silt loam, 0 to 2 percent slopes
330A	Peotone silty clay loam, 0 to 2 percent slopes
387B	Ockley silt loam, 2 to 5 percent slopes
440A	Jasper loam, 0 to 2 percent slopes
440B	Jasper loam, 2 to 5 percent slopes
440C2	Jasper loam, 5 to 10 percent slopes, eroded
448B	Mona silt loam, 2 to 5 percent slopes
481A	Raub silt loam, 0 to 2 percent slopes
490A	Odell silt loam, 0 to 2 percent slopes
496A	Fincastle silt loam, 0 to 2 percent slopes
496B2	Fincastle silt loam, 2 to 5 percent slopes, eroded
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded
530D2	Ozaukee silt loam, 6 to 12 percent slopes, eroded
530D3	Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded
530E2	Ozaukee silt loam, 12 to 20 percent slopes, eroded
530F	Ozaukee silt loam, 20 to 30 percent slopes
530G	Ozaukee silt loam, 30 to 70 percent slopes
533	Urban land
536	Dumps, mine
549G	Marseilles loam, 40 to 80 percent slopes
570B	Martinsville silt loam, 2 to 5 percent slopes
570C2	Martinsville loam, 5 to 10 percent slopes, eroded
570D2	Martinsville loam, 10 to 18 percent slopes, eroded
570F	Martinsville loam, 18 to 35 percent slopes
571A	Whitaker loam, 0 to 2 percent slopes
618C2	Senachwine silt loam, 5 to 10 percent slopes, eroded
618C3	Senachwine clay loam, 5 to 10 percent slopes, severely eroded
618D2	Senachwine silt loam, 10 to 18 percent slopes, eroded
618E2	Senachwine silt loam, 18 to 25 percent slopes, eroded
618F	Senachwine silt loam, 18 to 35 percent slopes
623A	Kishwaukee silt loam, 0 to 2 percent slopes
687B	Penfield loam, 2 to 5 percent slopes
758A	Haskins loam, 0 to 2 percent slopes
802B	Orthents, loamy, undulating
802F	Orthents, loamy, steep
864	Pits, quarry
865	Pits, gravel
871B	Lenzburg loam, 1 to 7 percent slopes
871G	Lenzburg gravelly loam, 20 to 70 percent slopes
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded
3183A	Shaffton loam, 0 to 2 percent slopes, frequently flooded
3302A	Ambraw loam, 0 to 2 percent slopes, frequently flooded
3473A	Rossburg silt loam, 0 to 2 percent slopes, frequently flooded
7304A	Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded
8304A	Landes fine sandy loam, 0 to 2 percent slopes, occasionally flooded
8473A	Rossburg loam, 0 to 2 percent slopes, occasionally flooded
8674A	Dozaville silt loam, 0 to 2 percent slopes, occasionally flooded
MW	Miscellaneous water
W	Water

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES
- National, state, or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park)
- Land grant
- Limit of soil survey (label) and/or denied access area
- Field sheet matchline & neatline
- Previously Published Survey

OTHER BOUNDARY (label)
- Airport, airfield
- Cemetery
- City/county park

STATE COORDINATE TICK 1 890 000 FEET

LAND DIVISION CORNER (section and land grants)

GEOGRAPHIC COORDINATE TICK

TRANSPORTATION
- Divided roads
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS
- Interstate 173
- Federal 287
- State 52
- County, farm or ranch 1283

RAILROAD

POWER TRANSMISSION LINE

PIPELINE

FENCE

LEVEES
- Without road
- With road
- With railroad
- Single side slope (showing actual feature location)

DAMS
- Medium or Small

LANDFORM FEATURES
- Prominent hill or peak
- Soil Sample Site

MISCELLANEOUS CULTURAL FEATURES
- Farmstead, house (omit in urban areas)
- Church
- School
- Other Religion (label) Mt Carmel
- Located object (label) Ranger Station
- Tank (label) Petroleum
- Lookout Tower
- Oil and/or Natural Gas Wells
- Windmill
- Lighthouse

HYDROGRAPHIC FEATURES

STREAMS
- Perennial, double line
- Perennial, single line — Label only
- Intermittent — Label only
- Drainage end — Label only

DRAINAGE AND IRRIGATION
- Double-line canal (label) CANAL
- Perennial drainage and/or irrigation ditch — Label only
- Intermittent drainage and/ or irrigation ditch — Label only

SMALL LAKES, PONDS AND RESERVOIRS
- Perennial water
- Miscellaneous water
- Flood pool line FLOOD POOL LINE

MISCELLANEOUS WATER FEATURES
- Spring
- Well, artesian
- Well, irrigation

SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS 17A 59A

LANDFORM FEATURES

ESCARPMENTS
- Bedrock
- Other than bedrock
- Short steep slope
- Gully
- Depression, closed
- Sinkhole

EXCAVATIONS

PITS
- Borrow pits
- Gravel pit
- Mine or quarry
- Landfill

MISCELLANEOUS SURFACE FEATURES
- Blowout
- Clay spot
- Gravelly spot
- Lava flow
- Marsh or swamp
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip
- Sodic spot
- Spoil area
- Stony spot
- Very stony spot
- Wet spot

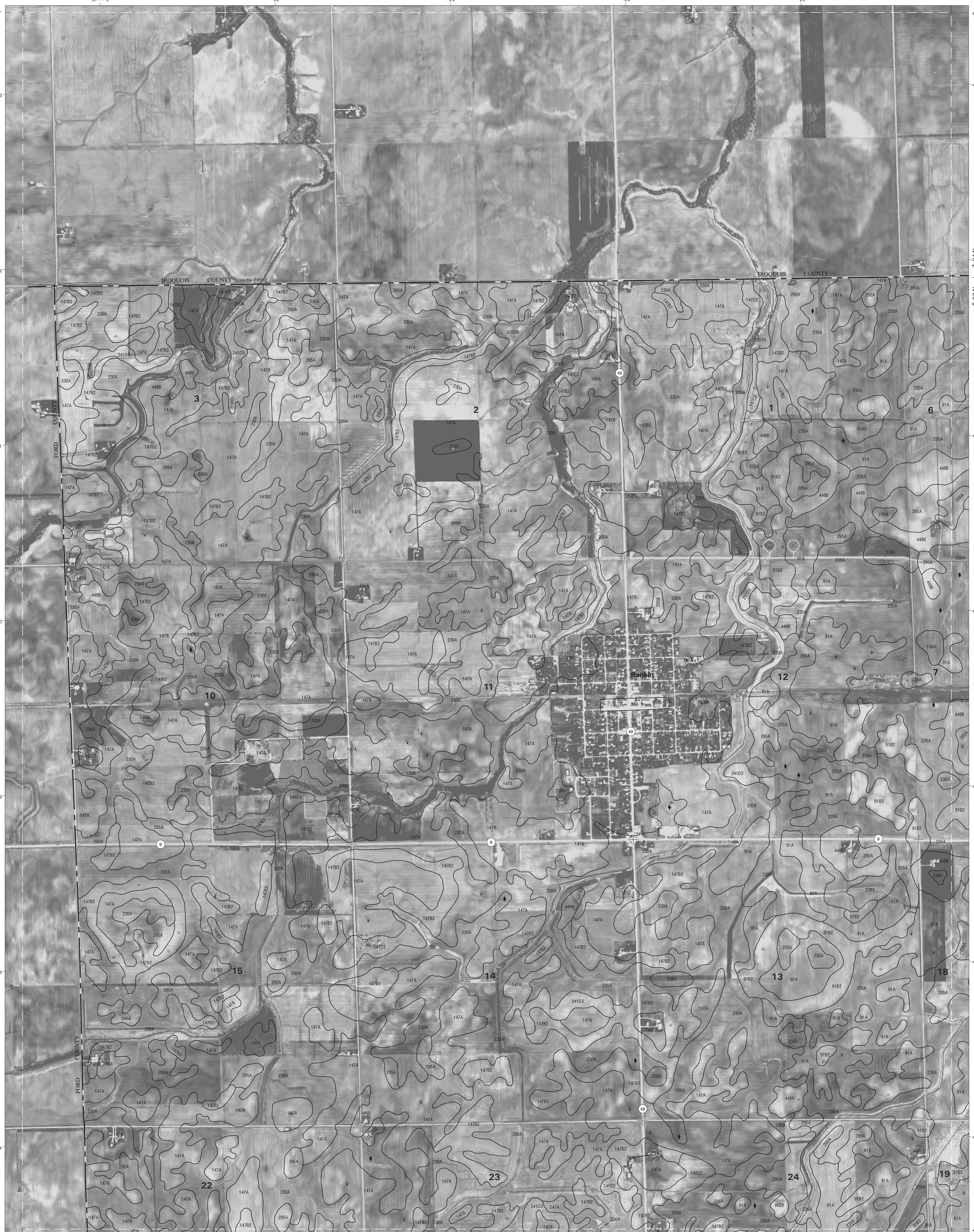
Descriptions of Special Features

Name	Description	Label
Blowout	A small saucer-, cup-, or trough-shaped hollow or depression formed by wind erosion on a preexisting sand deposit. Typically 0.2 acre to 2.0 acres.	BLO
Borrow pit	An open excavation from which soil and underlying material have been removed, usually for construction purposes. Typically 0.2 acre to 2.0 acres.	BPI
Calcareous spot	An area in which the soil contains carbonates in the surface layer. The surface layer of the named soils in the surrounding map unit is noncalcareous. Typically 0.5 acre to 2.0 acres.	CSP
Clay spot	A spot where the surface layer is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser. Typically 0.2 acre to 2.0 acres.	CLA
Depression, closed	A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage. Typically 0.2 acre to 2.0 acres.	DEP
Disturbed soil spot	An area in which the soil has been removed and materials redeposited as a result of human activity. Typically 0.25 acre to 2.0 acres.	DSS
Dumps	Areas of nonsoil material that support little or no vegetation. Typically 0.5 acre to 2.0 acres.	DMP
Escarpment, bedrock	A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.	ESB
Escarpment, nonbedrock	A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.	ESO
Glacial till spot	An exposure of glacial till at the surface of the earth. Typically 0.25 acre to 2.0 acres.	GLA
Gravel pit	An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel. Typically 0.2 acre to 2.0 acres.	GPI
Gravelly spot	A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments. Typically 0.2 acre to 2.0 acres.	GRA

Name	Description	Label
Gray spot	A spot in which the surface layer is gray in areas where the subsurface layer of the named soils in the surrounding map unit are darker. Typically 0.25 acre to 2.0 acres.	GSP
Gully	A small channel with steep sides cut by running water through which water ordinarily runs only after a rain or after melting of snow or ice. It generally is an obstacle to wheeled vehicles and is too deep to be obliterated by ordinary tillage.	GUL
Iron bog	An accumulation of iron in the form of nodules, concretions, or soft masses on the surface or near the surface of soils. Typically 0.2 acre to 2.0 acres.	BFE
Landfill	An area of accumulated waste products of human habitation, either above or below natural ground level. Typically 0.2 acre to 2.0 acres.	LDF
Levee	An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.	LVS
Marsh or swamp	A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Typically 0.2 acre to 2.0 acres.	MAR
Mine or quarry	An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines. Typically 0.2 acre to 2.0 acres.	MPI
Mine subsided area	An area that is lower than the soils in the surrounding map unit because of subsurface coal mining. Typically 0.25 acre to 3.0 acres.	MSA
Miscellaneous water	A small, constructed body of water that is used for industrial, sanitary, or mining applications and that contains water most of the year. Typically 0.2 acre to 2.0 acres.	MIS
Muck spot	An area that occurs within an area of poorly drained or very poorly drained soil and that has a histic epipedon or an organic surface layer. The symbol is used only in map units consisting of mineral soil. Typically 0.2 acre to 2.0 acres.	MUC
Oil brine spot	An area of soil that has been severely damaged by the accumulation of oil brine, with or without liquid oily wastes. The area is typically barren but may have a vegetative cover of salt-tolerant plants. Typically 0.2 acre to 2.0 acres.	OBS
Perennial water	A small, natural or constructed lake, pond, or pit that contains water most of the year. Typically 0.2 acre to 2.0 acres.	WAT

Name	Description	Label
Rock outcrop	An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where “Rock outcrop” is a named component of the map unit. Typically 0.2 acre to 2.0 acres.	ROC
Saline spot	An area where the surface layer has an electrical conductivity of 8 mmhos/cm-l more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm-l or less. Typically 0.2 acre to 2.0 acres.	SAL
Sandy spot	A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer. Typically 0.2 acre to 2.0 acres.	SAN
Severely eroded spot	An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which “severely eroded,” “very severely eroded,” or “gullied” is part of the map unit name. Typically 0.2 acre to 2.0 acres.	ERO
Short steep slope	A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.	SLP
Sinkhole	A closed depression formed either by solution of the surficial rock or by collapse of underlying caves. Typically 0.2 acre to 2.0 acres.	SNK
Slide or slip	A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces. Typically 0.2 acre to 2.0 acres.	SLI
Sodic spot	An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less. Typically 0.2 acre to 2.0 acres.	SOD
Spoil area	A pile of earthy materials, either smoothed or uneven, resulting from human activity. Typically 0.2 acre to 2.0 acres.	SPO
Stony spot	A spot where 0.01 to 0.1 percent of the surface cover is rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones. Typically 0.2 acre to 2.0 acres.	STN
Unclassified water	A small, natural or manmade lake, pond, or pit that contains water, of an unspecified nature, most of the year. Typically 0.2 acre to 2.0 acres.	UWT

Name	Description	Label
Very stony spot	A spot where 0.1 to 3.0 percent of the surface cover is rock fragments that are more than 10 inches in diameter in areas where the surface cover of the surrounding soil is less than 0.01 percent stones. Typically 0.2 acre to 2.0 acres.	STV
Wet depression	A shallow, concave area within an area of poorly drained or very poorly drained soils in which water is ponded for intermittent periods. The concave area is saturated for appreciably longer periods of time than the surrounding soil. Typically 0.2 acre to 2.0 acres.	WDP
Wet spot	A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit. Typically 0.2 acres to 2.0 acres.	WET



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

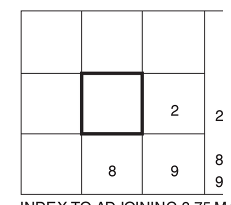
QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS



2 EAST LYNN NW
8 RANKIN SE
9 EAST LYNN SW

INDEX TO ADJOINING 3.75 MAPS

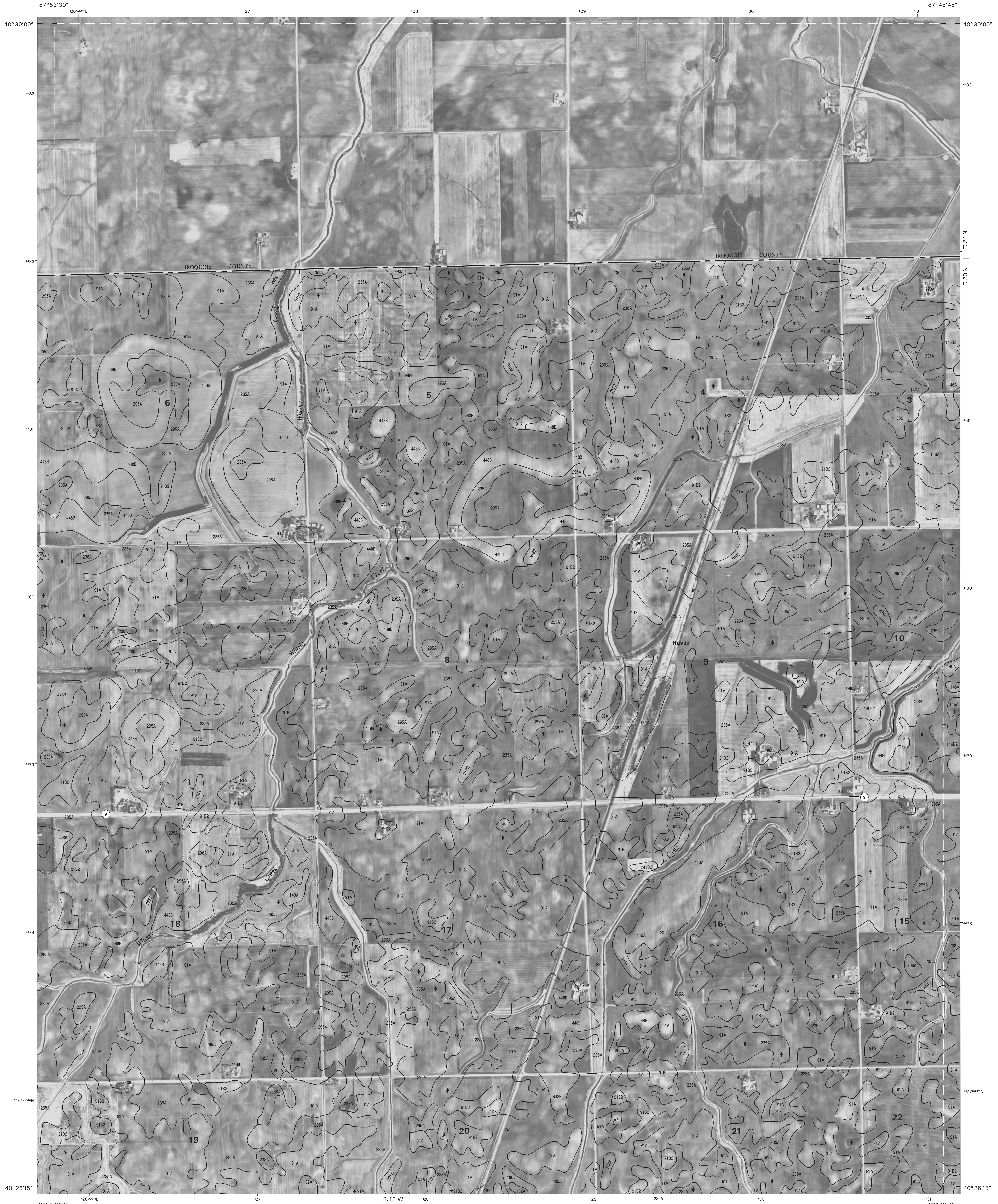
RANKIN NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 1 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
EAST LYNN NW QUADRANGLE
SHEET NUMBER 2 OF 71



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

1 RANKIN NE
3 EAST LYNN NE
8 RANKIN SE
9 EAST LYNN SW
10 EAST LYNN SE

INDEX TO ADJOINING 3.75 MAPS

EAST LYNN NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 2 OF 71

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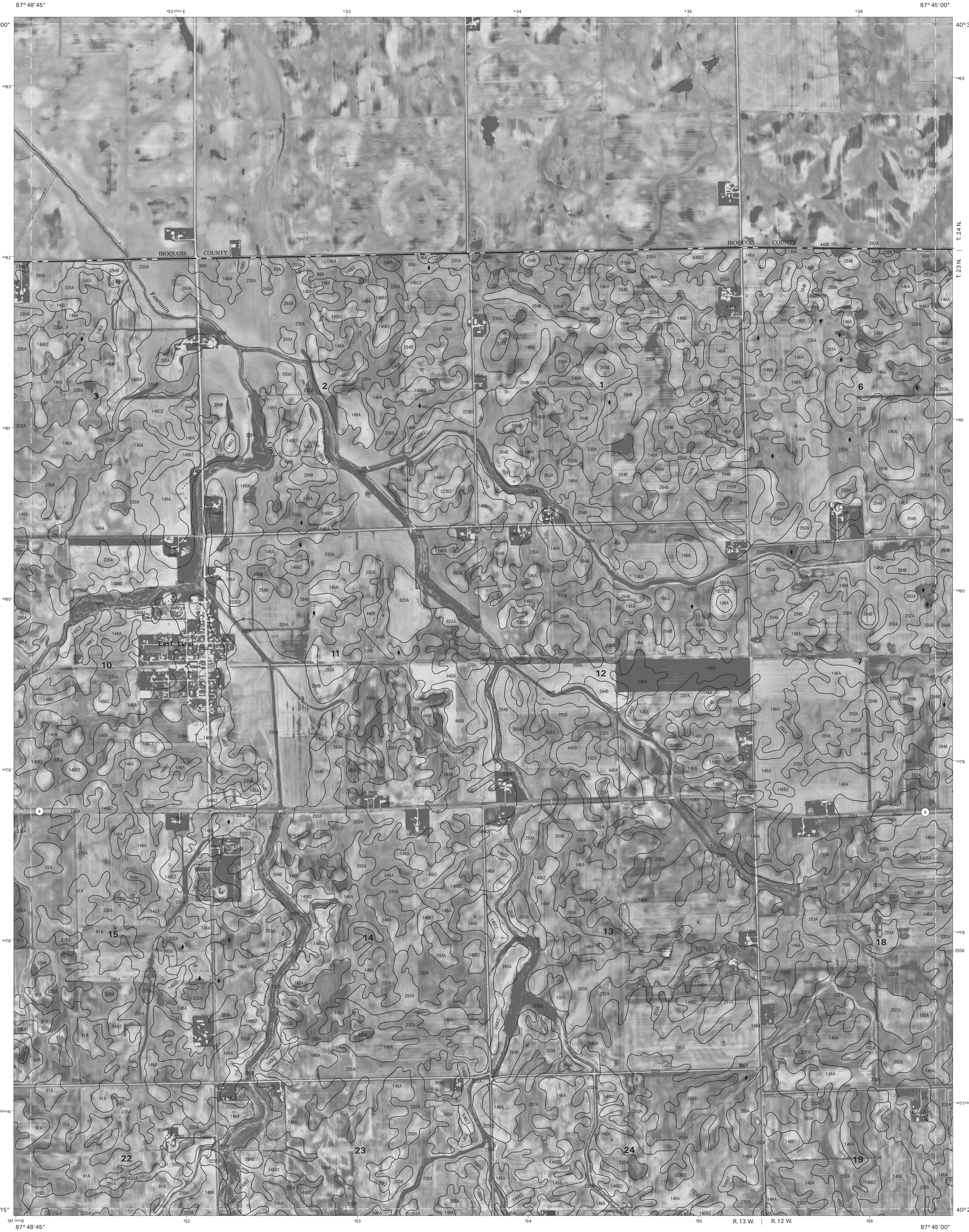

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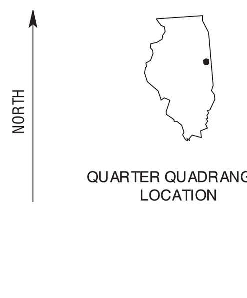

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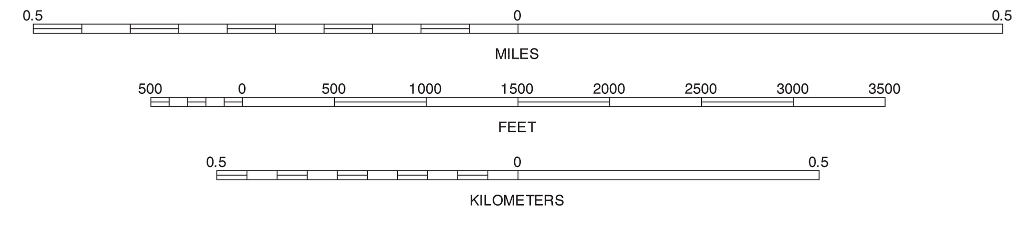

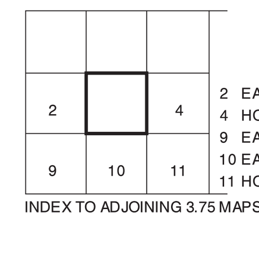

2 EAST LYNN NW
4 HOOPESTON NW
9 EAST LYNN SW
10 EAST LYNN SE
11 HOOPESTON SW

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EAST LYNN NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 3 OF 71

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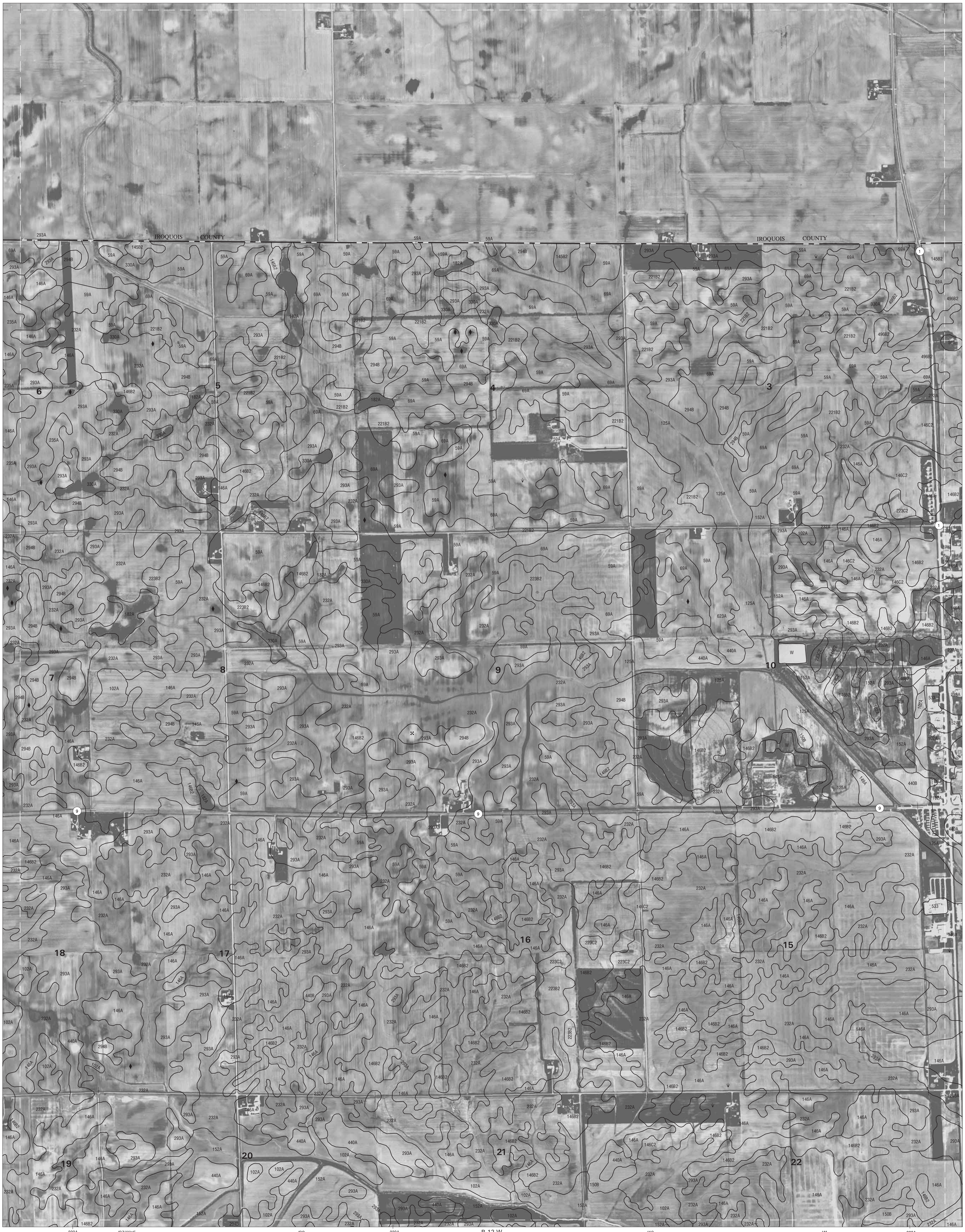

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

3		5
10	11	12

3 EAST LYNN NE
5 HOOPESTON NE
10 EAST LYNN SE
11 HOOPESTON SW
12 HOOPESTON SE

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HOOPESTON NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 4 OF 71

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87° 41′15″ 87° 37′30″
40° 30′00″

40° 26′15″
87° 41′15″ 87° 37′30″

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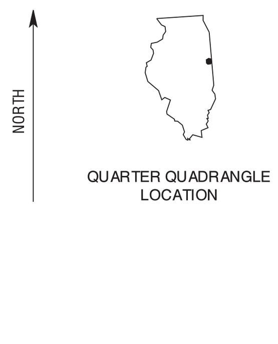

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

4 HOOPESTON NW
6 AMBIA NW
11 HOOPESTON SW
12 HOOPESTON SE
13 AMBIA SW

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HOOPESTON NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 5 OF 71

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
AMBIA NW QUADRANGLE
SHEET NUMBER 6 OF 71

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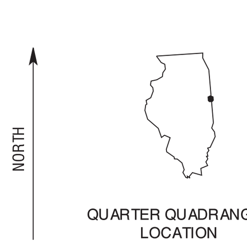
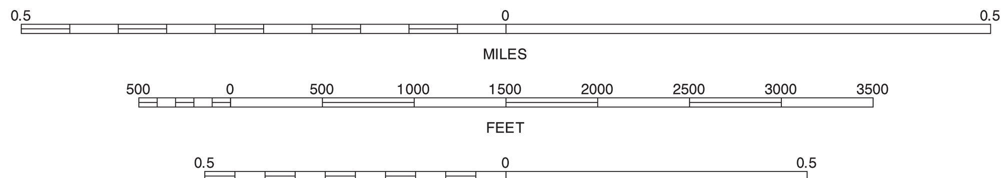
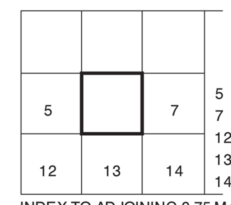


QUARTER QUADRANGLE LOCATION

SCALE 1:12000





5 HOOPESTON NE
7 AMBIA NE
12 HOOPESTON SE
13 AMBIA SW
14 AMBIA SE

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AMBIA NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 6 OF 71

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SCALE 1:12000

MILES

FEET

KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

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6 AMBIA NW
13 AMBIA SW
14 AMBIA SE

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AMBIA NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 7 OF 71

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VERMILION COUNTY, ILLINOIS
RANKIN SE QUADRANGLE
SHEET NUMBER 8 OF 71

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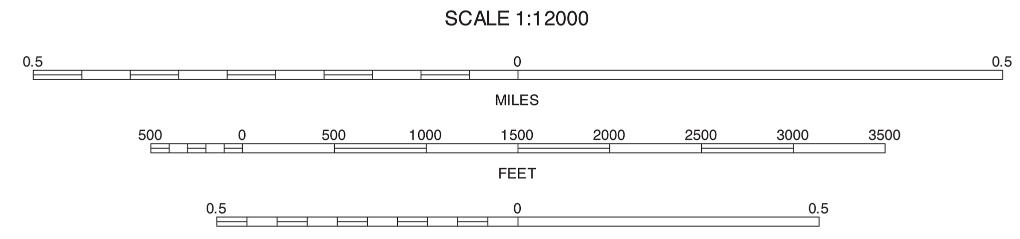
QUARTER QUADRANGLE LOCATION

SCALE 1:12000



	1	2	
		9	
	15	16	

1 RANKIN NE
2 EAST LYNN NW
9 EAST LYNN SW
15 PENFIELD NE
16 POTOMAC NW

INDEX TO ADJOINING 3.75 MAPS

RANKIN SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 8 OF 71

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UNITED STATES
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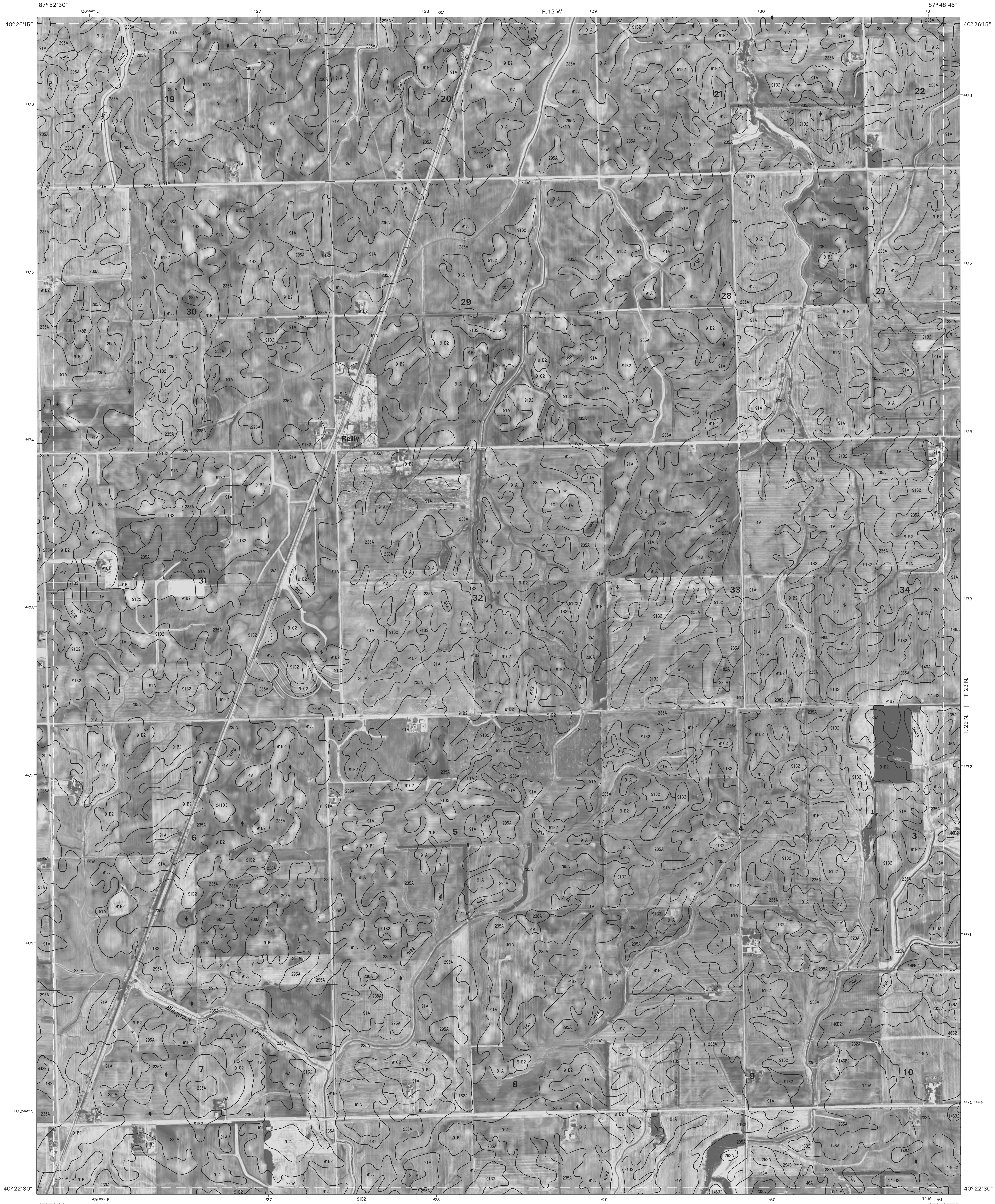
VERMILION COUNTY, ILLINOIS
EAST LYNN SW QUADRANGLE
SHEET NUMBER 9 OF 71



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

1	2	3
8		10
15	16	17

1 RANKIN NE
2 EAST LYNN NW
3 EAST LYNN NE
8 RANKIN SE
10 EAST LYNN SE
15 PENFIELD NE
16 POTOMAC NW
17 POTOMAC NE

INDEX TO ADJOINING 3.75 MAPS

EAST LYNN SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 9 OF 71

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UNITED STATES
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NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
EAST LYNN SE QUADRANGLE
SHEET NUMBER 10 OF 71

87° 48′ 45″ — 40° 26′15″ — 87° 45′00″ — 40° 26′15″

40° 22′30″ — 87° 48′ 45″ — 40° 22′30″ — 87° 45′00″

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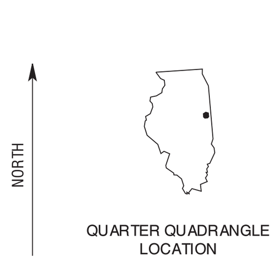
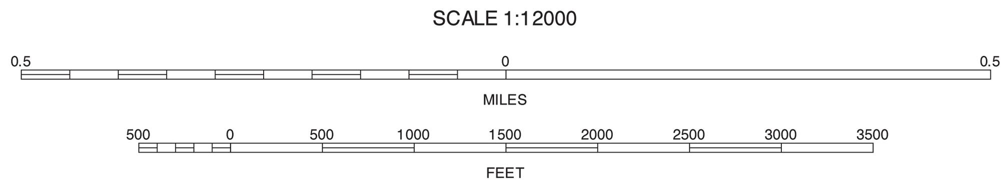


QUARTER QUADRANGLE LOCATION

SCALE 1:12000



2	3	4
9		11
16	17	18

2 EAST LYNN NW
3 EAST LYNN NE
4 HOOPESTON NW
9 EAST LYNN SW
11 HOOPESTON SW
16 POTOMAC NW
17 POTOMAC NE
18 HENNING NW

INDEX TO ADJOINING 3.75 MAPS

EAST LYNN SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 10 OF 71

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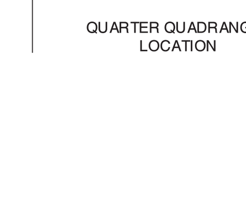

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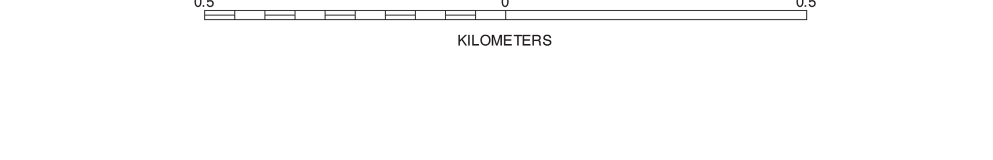

3	4	5
10		12
17	18	19

3 EAST LYNN NE
4 HOOPESTON NW
5 HOOPESTON NE
10 EAST LYNN SE
12 HOOPESTON SE
17 POTOMAC NE
18 HENNING NW
19 HENNING NE

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HOOPESTON SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 11 OF 71

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SCALE 1:12000

MILES

FEET

KILOMETERS

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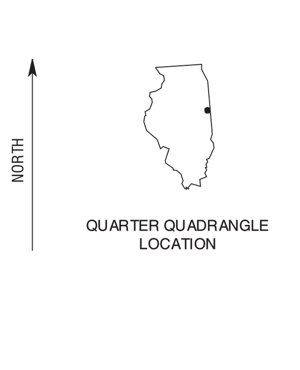

QUARTER QUADRANGLE LOCATION

4	5	6
11		13
18	19	20

4 HOOPESTON NW
5 HOOPESTON NE
6 AMBIA NW
11 HOOPESTON SW
13 AMBIA SW
18 HENNING NW
19 HENNING NE
20 BISMARCK NW

INDEX TO ADJOINING 3.75 MAPS

HOOPESTON SE, ILLINOIS

3.75 MINUTE SERIES

SHEET NUMBER 12 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

5	6	7
12		14
19	20	21

5 HOOPESTON NE
6 AMBIA NW
7 AMBIA NE
12 HOOPESTON SE
14 AMBIA SE
19 HENNING NE
20 BISMARCK NW
21 BISMARCK NE

INDEX TO ADJOINING 3.75 MAPS

AMBIA SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 13 OF 71

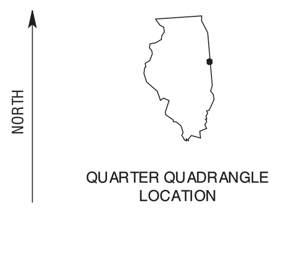
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

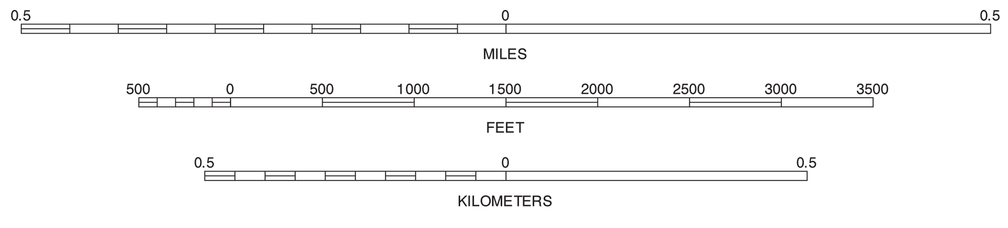
VERMILION COUNTY, ILLINOIS
AMBIA SE QUADRANGLE
SHEET NUMBER 14 OF 71

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



SCALE 1:12000



6	7	
13		
20	21	

6 AMBIA NW
7 AMBIA NE
13 AMBIA SW
20 BISMARCK NW
21 BISMARCK NE

INDEX TO ADJOINING 3.75 MAPS

AMBIA SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 14 OF 71

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

8	9	
		16
22	23	

8 RANKIN SE
9 EAST LYNN SW
16 POTOMAC NW
22 PENFIELD SE
23 POTOMAC SW

INDEX TO ADJOINING 3.75 MAPS

PENFIELD NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 15 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
POTOMAC NW QUADRANGLE
SHEET NUMBER 16 OF 71

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

8	9	10
15		17
22	23	24

8 RANKIN SE
9 EAST LYNN SW
10 EAST LYNN SE
15 PENFIELD NE
17 POTOMAC NE
22 PENFIELD SE
23 POTOMAC SW
24 POTOMAC SE

INDEX TO ADJOINING 3.75 MAPS

POTOMAC NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 16 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SCALE 1:12000

MILES

FEET

KILOMETERS

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NORTH

QUARTER QUADRANGLE LOCATION

9	10	11
16		18
23	24	25

9 EAST LYNN SW
10 EAST LYNN SE
11 HOOPESTON SW
16 POTOMAC NW
18 HENNING NW
23 POTOMAC SW
24 POTOMAC SE
25 HENNING SW

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POTOMAC NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 17 OF 71

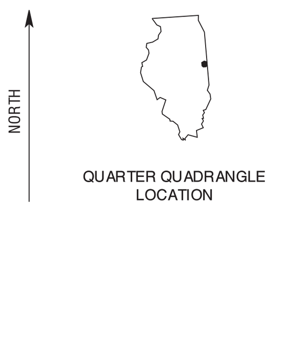
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
HENNING NW QUADRANGLE
SHEET NUMBER 18 OF 71

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



SCALE 1:12000

MILES: 0.5 — 0 — 0.5

FEET: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500

KILOMETERS: 0.5 — 0 — 0.5

10	11	12
17		19
24	25	26

10 EAST LYNN SE
11 HOOPESTON SW
12 HOOPESTON SE
17 POTOMAC NE
19 HENNING NE
24 POTOMAC SE
25 HENNING SW
26 HENNING SE

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HENNING NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 18 OF 71

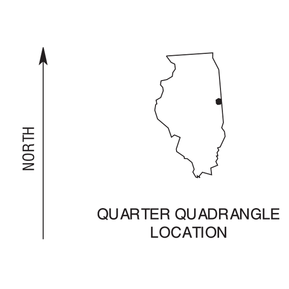
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
HENNING NE QUADRANGLE
SHEET NUMBER 19 OF 71

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

11	12	13
18		20
25	26	27

11 HOOPESTON SW
12 HOOPESTON SE
13 AMBIA SW
18 HENNING NW
20 BISMARCK NW
25 HENNING SW
26 HENNING SE
27 BISMARCK SW

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HENNING NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 19 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

12	13	14
19		21
26	27	28

12 HOOPESTON SE
13 AMBIA SW
14 AMBIA SE
19 HENNING NE
21 BISMARCK NE
26 HENNING SE
27 BISMARCK SW
28 BISMARCK SE

INDEX TO ADJOINING 3.75 MAPS

BISMARCK NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 20 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
BISMARCK NE QUADRANGLE
SHEET NUMBER 21 OF 71

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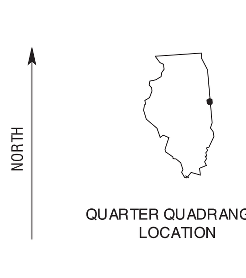
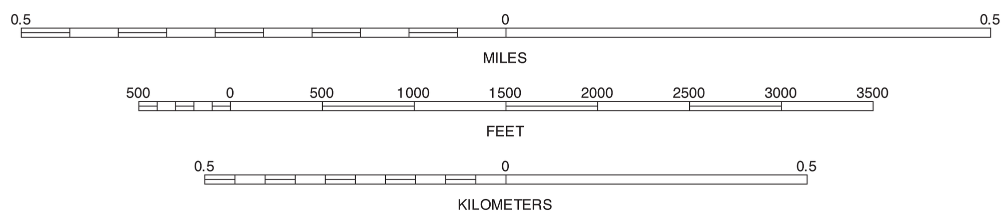
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



13	14		13 AMBIA SW 14 AMBIA SE
20	■		20 BISMARCK NW
27	28		27 BISMARCK SW 28 BISMARCK SE

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BISMARCK NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 21 OF 71

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
PENFIELD SE QUADRANGLE
SHEET NUMBER 22 OF 71

87° 56'15" | R. 14 W. | 87° 52'30"

40°18'45"

40°15'00"

87° 56'15" | 87° 52'30"

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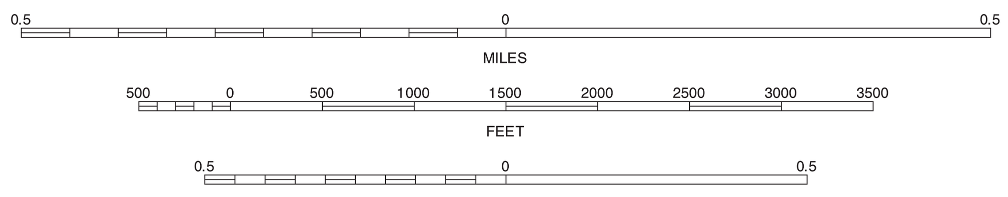
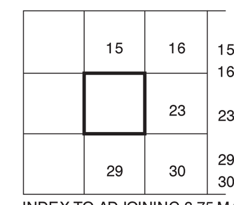
QUARTER QUADRANGLE LOCATION

SCALE 1:12000





15 PENFIELD NE
16 POTOMAC NW
23 POTOMAC SW
29 ROYAL NE
30 COLLISON NW

INDEX TO ADJOINING 3.75 MAPS

PENFIELD SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 22 OF 71

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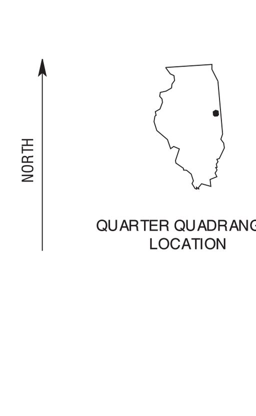
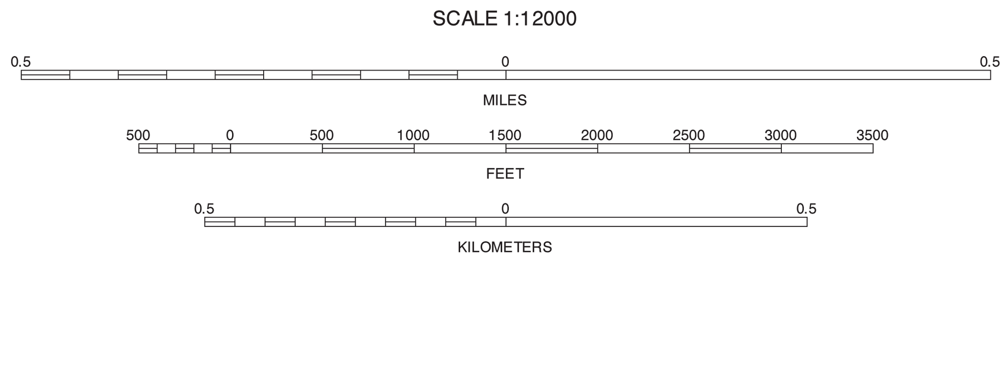


QUARTER QUADRANGLE LOCATION

SCALE 1:12000



15	16	17
22		24
29	30	31

15 PENFIELD NE
16 POTOMAC NW
17 POTOMAC NE
22 PENFIELD SE
24 POTOMAC SE
29 ROYAL NE
30 COLLISON NW
31 COLLISON NE

INDEX TO ADJOINING 3.75 MAPS

POTOMAC SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 23 OF 71

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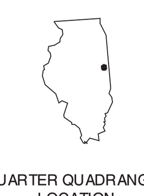
NORTH



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

16	17	18
23		25
30	31	32

16 POTOMAC NW
17 POTOMAC NE
18 HENNING NW
23 POTOMAC SW
25 HENNING SW
30 COLLISON NW
31 COLLISON NE
32 DANVILLE NW NW

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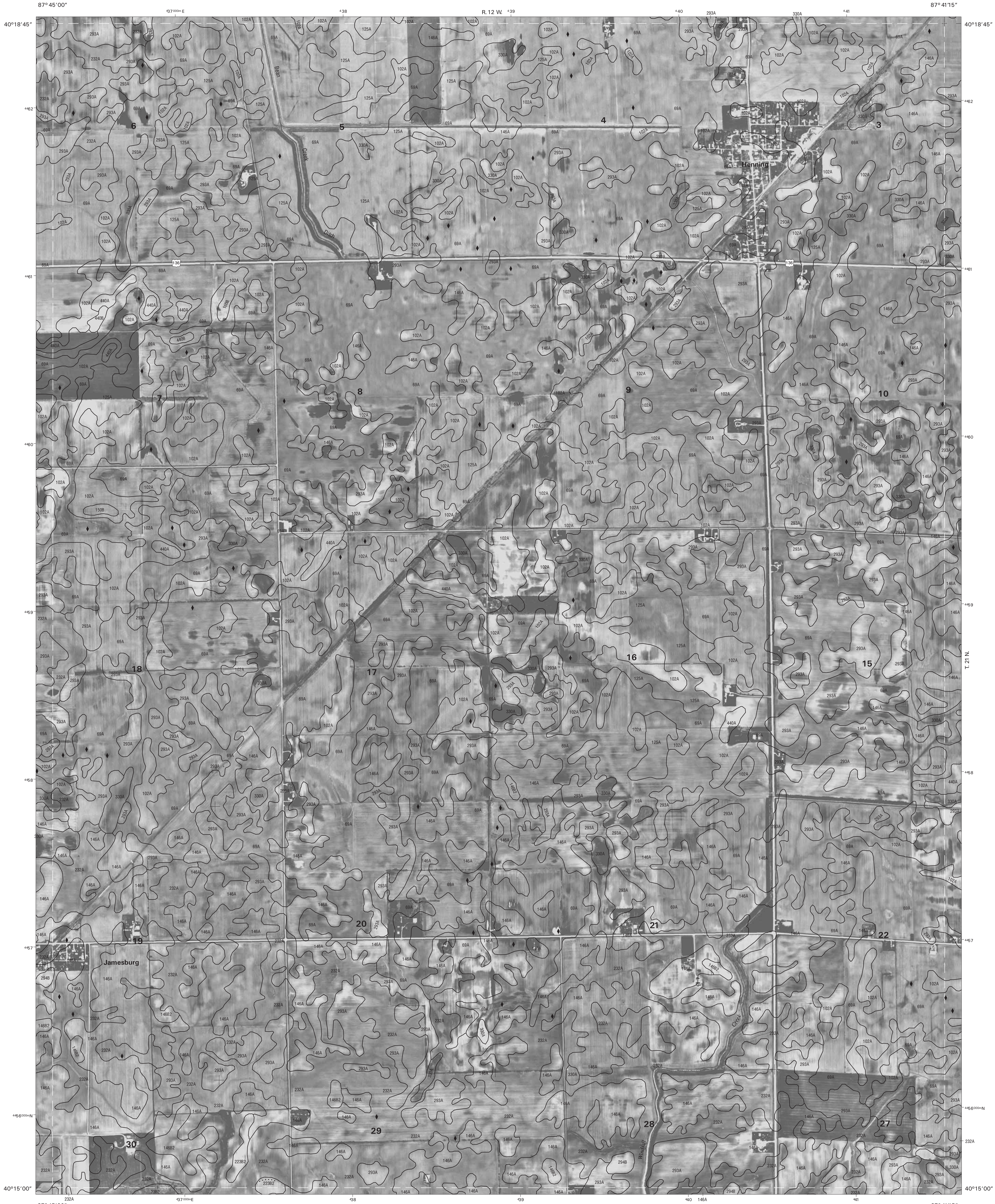
POTOMAC SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 24 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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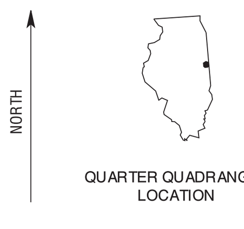
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

17	18	19
24		26
31	32	33

17 POTOMAC NE
18 HENNING NW
19 HENNING NE
24 POTOMAC SE
26 HENNING SE
31 COLLISON NE
32 DANVILLE NW NW
33 DANVILLE NW NE

INDEX TO ADJOINING 3.75 MAPS

HENNING SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 25 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
HENNING SE QUADRANGLE
SHEET NUMBER 26 OF 71

SCALE 1:12000

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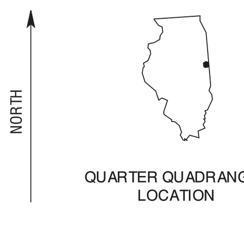
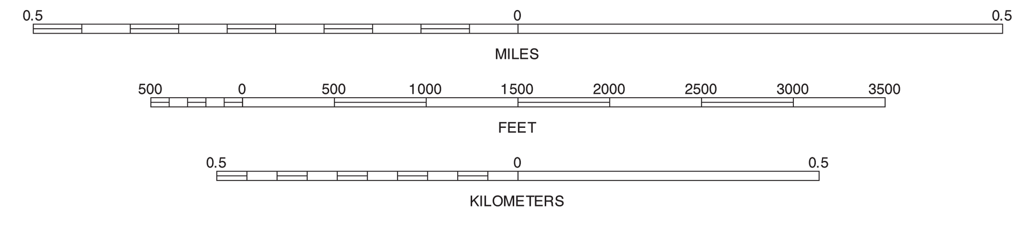
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.





18	19	20
25		27
32	33	34

18 HENNING NW
19 HENNING NE
20 BISMARCK NW
25 HENNING SW
27 BISMARCK SW
32 DANVILLE NW NW
33 DANVILLE NW NE
34 DANVILLE NE NW

INDEX TO ADJOINING 3.75 MAPS

HENNING SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 26 OF 71

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

19	20	21
26		28
33	34	35

19 HENNING NE
20 BISMARCK NW
21 BISMARCK NE
26 HENNING SE
28 BISMARCK SE
33 DANVILLE NW NE
34 DANVILLE NE NW
35 DANVILLE NE NE

INDEX TO ADJOINING 3.75 MAPS

BISMARCK SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 27 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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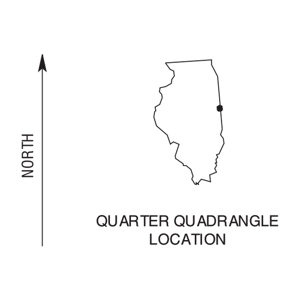
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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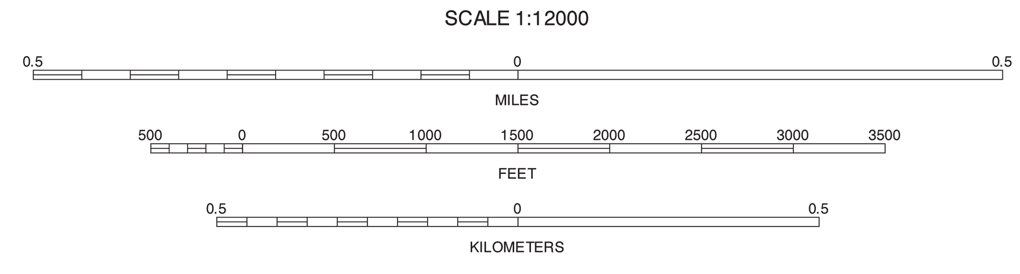


20	21	
27		
34	35	

20 BISMARCK NW
21 BISMARCK NE
27 BISMARCK SW
34 DANVILLE NE NW
35 DANVILLE NE NE

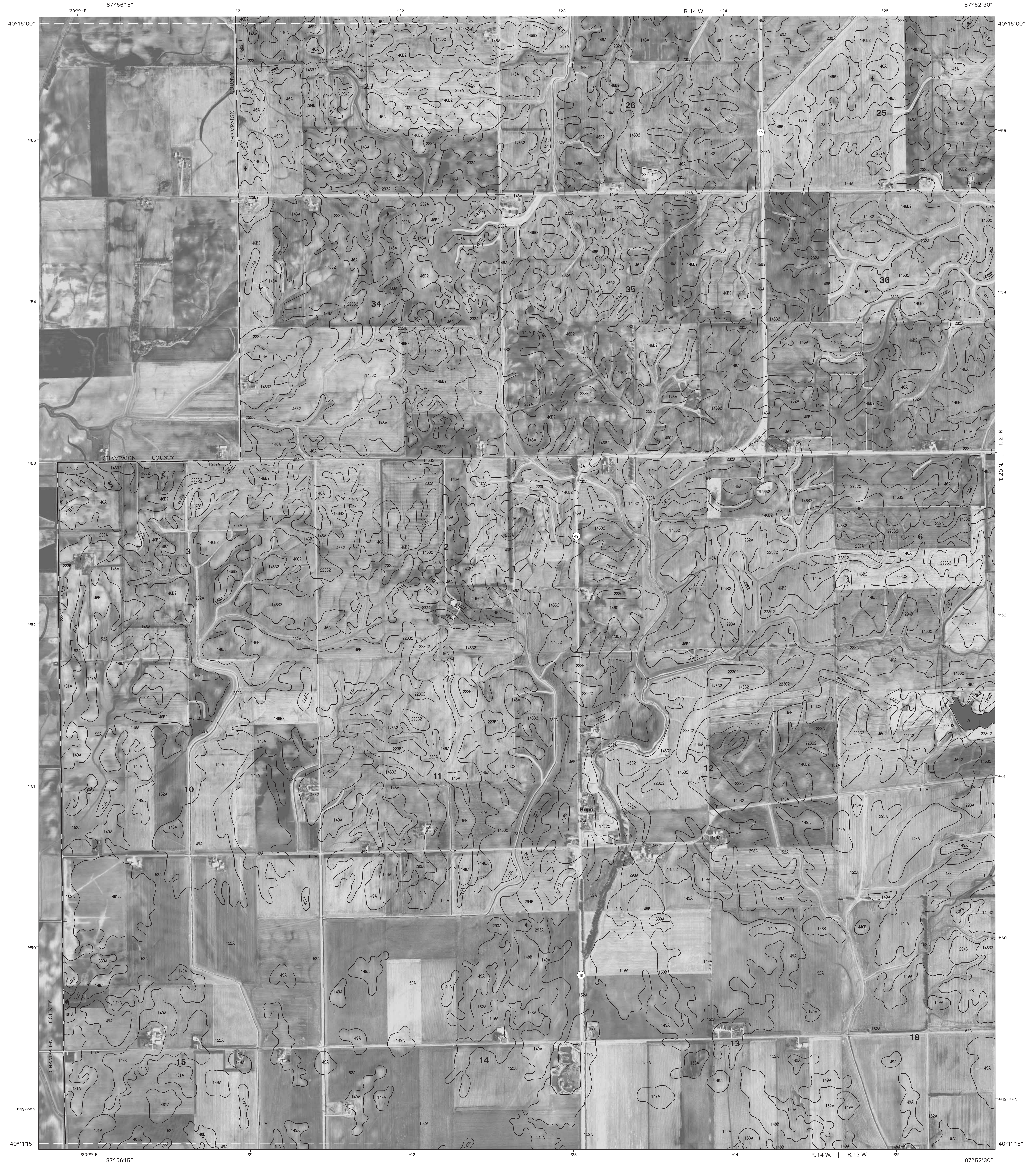
INDEX TO ADJOINING 3.75 MAPS

BISMARCK SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 28 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
ROYAL NE QUADRANGLE (OVERSIZED)
SHEET NUMBER 29 OF 71



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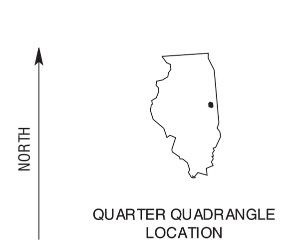
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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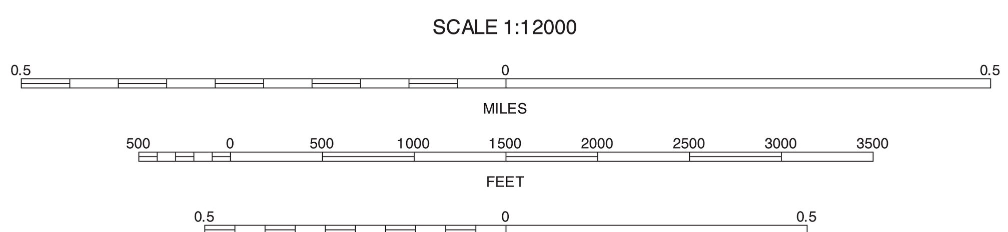

	22	23
		30
	36	37

22 PENFIELD SE
23 POTOMAC SW
30 COLLISON NW
36 ROYAL SE
37 COLLISON SW

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ROYAL NE, (OVERSIZED) ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 29 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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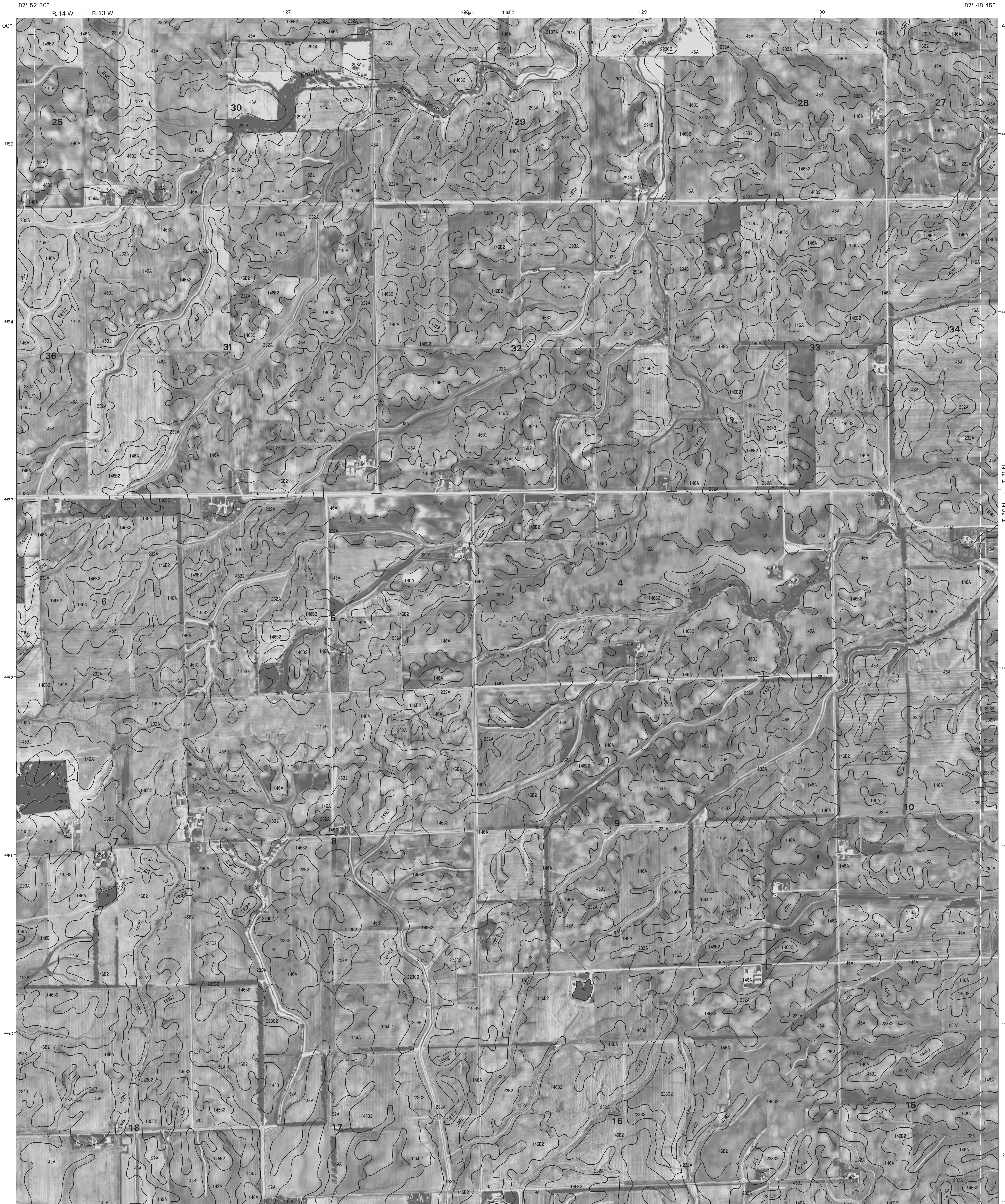
VERMILION COUNTY, ILLINOIS
COLLISON NW QUADRANGLE
SHEET NUMBER 30 OF 71



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

22	23	24
29		31
36	37	38

22 PENFIELD SE
23 POTOMAC SW
24 POTOMAC SE
29 ROYAL NE
31 COLLISON NE
36 ROYAL SE
37 COLLISON SW
38 COLLISON SE

INDEX TO ADJOINING 3.75 MAPS

COLLISON NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 30 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
COLLISON NE QUADRANGLE
SHEET NUMBER 31 OF 71

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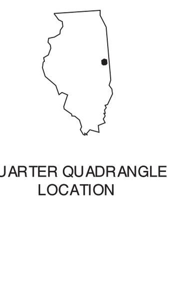
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

23	24	25
30		32
37	38	39

23 POTOMAC SW
24 POTOMAC SE
25 HENNING SW
30 COLLISON NW
32 DANVILLE NW NW
37 COLLISON SW
38 COLLISON SE
39 DANVILLE NW SW

INDEX TO ADJOINING 3.75 MAPS

COLLISON NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 31 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

87° 45′00″ 87° 41′15″

40°15′00″ 40°15′00″

40°11′15″ 40°11′15″

87° 45′00″ 87° 41′15″

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NORTH

QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

24	25	26
31		33
38	39	40

24 POTOMAC SE
25 HENNING SW
26 HENNING SE
31 COLLISON NE
33 DANVILLE NW NE
38 COLLISON SE
39 DANVILLE NW SW
40 DANVILLE NW SE

INDEX TO ADJOINING 3.75 MAPS

DANVILLE NW NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 32 OF 71

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

25	26	27
32		34
39	40	41

25 HENNING SW
26 HENNING SE
27 BISMARCK SW
32 DANVILLE NW NW
34 DANVILLE NE NW
39 DANVILLE NW SW
40 DANVILLE NW SE
41 DANVILLE NE SW

INDEX TO ADJOINING 3.75 MAPS

DANVILLE NW NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 33 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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VERMILION COUNTY, ILLINOIS
DANVILLE NE NW QUADRANGLE
SHEET NUMBER 34 OF 71

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

26	27	28
33		35
40	41	42

26 HENNING SE
27 BISMARCK SW
28 BISMARCK SE
33 DANVILLE NW NE
35 DANVILLE NE NE
40 DANVILLE NW SE
41 DANVILLE NE SW
42 DANVILLE NE SE

INDEX TO ADJOINING 3.75 MAPS

DANVILLE NE NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 34 OF 71

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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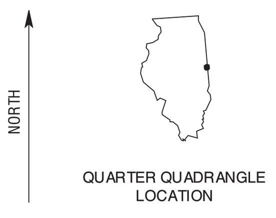
VERMILION COUNTY, ILLINOIS
DANVILLE NE NE QUADRANGLE
SHEET NUMBER 35 OF 71

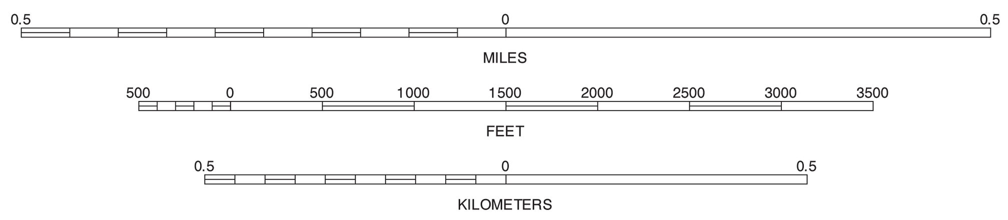
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



27	28	
34		
41	42	

27 BISMARCK SW
28 BISMARCK SE
34 DANVILLE NE NW
41 DANVILLE NE SW
42 DANVILLE NE SE

INDEX TO ADJOINING 3.75 MAPS

DANVILLE NE NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 35 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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87° 56′15″ | 87° 52′30″
40° 11′15″

40° 07′30″
87° 56′15″ | 87° 52′30″

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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES
FEET
KILOMETERS

	29	30
		37
	43	44

29 ROYAL NE
30 COLLISON NW
37 COLLISON SW
43 HOMER NE
44 OAKWOOD NW

INDEX TO ADJOINING 3.75 MAPS

ROYAL SE, (OVERSIZED) ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 36 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

29	30	31
36		38
43	44	45

29 ROYAL NE
30 COLLISON NW
31 COLLISON NE
36 ROYAL SE
38 COLLISON SE
43 HOMER NE
44 OAKWOOD NW
45 OAKWOOD NE

INDEX TO ADJOINING 3.75 MAPS

COLLISON SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 37 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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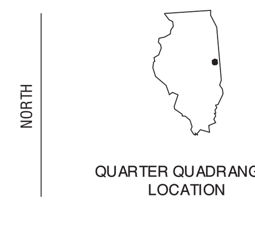
VERMILION COUNTY, ILLINOIS
COLLISON SE QUADRANGLE
SHEET NUMBER 38 OF 71

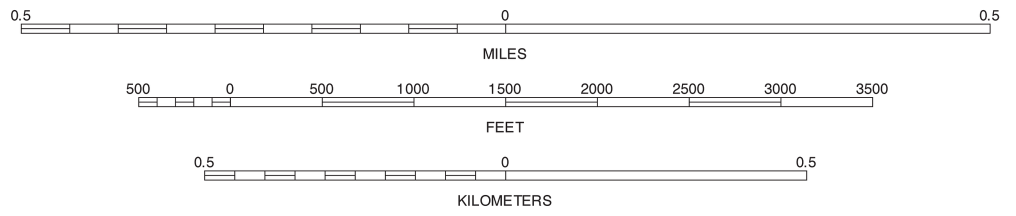
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



30	31	32
37		39
44	45	46

30 COLLISON NW
31 COLLISON NE
32 DANVILLE NW NW
37 COLLISON SW
39 DANVILLE NW SW
44 OAKWOOD NW
45 OAKWOOD NE
46 DANVILLE SW NW

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COLLISON SE, ILLINOIS
3.75 MINUTE SERIES
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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

31	32	33
38		40
45	46	47

31 COLLISON NE
32 DANVILLE NW NW
33 DANVILLE NW NE
38 COLLISON SE
40 DANVILLE NW SE
45 OAKWOOD NE
46 DANVILLE SW NW
47 DANVILLE SW NE

INDEX TO ADJOINING 3.75 MAPS

DANVILLE NW SW, ILLINOIS
3.75 MINUTE SERIES
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UNITED STATES
DEPARTMENT OF AGRICULTURE
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VERMILION COUNTY, ILLINOIS
DANVILLE NW SE QUADRANGLE
SHEET NUMBER 40 OF 71

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

32	33	34
39		41
46	47	48

32 DANVILLE NW NW
33 DANVILLE NW NE
34 DANVILLE NE NW
39 DANVILLE NW SW
41 DANVILLE NE SW
46 DANVILLE SW NW
47 DANVILLE SW NE
48 DANVILLE SE NW

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DANVILLE NW SE, ILLINOIS
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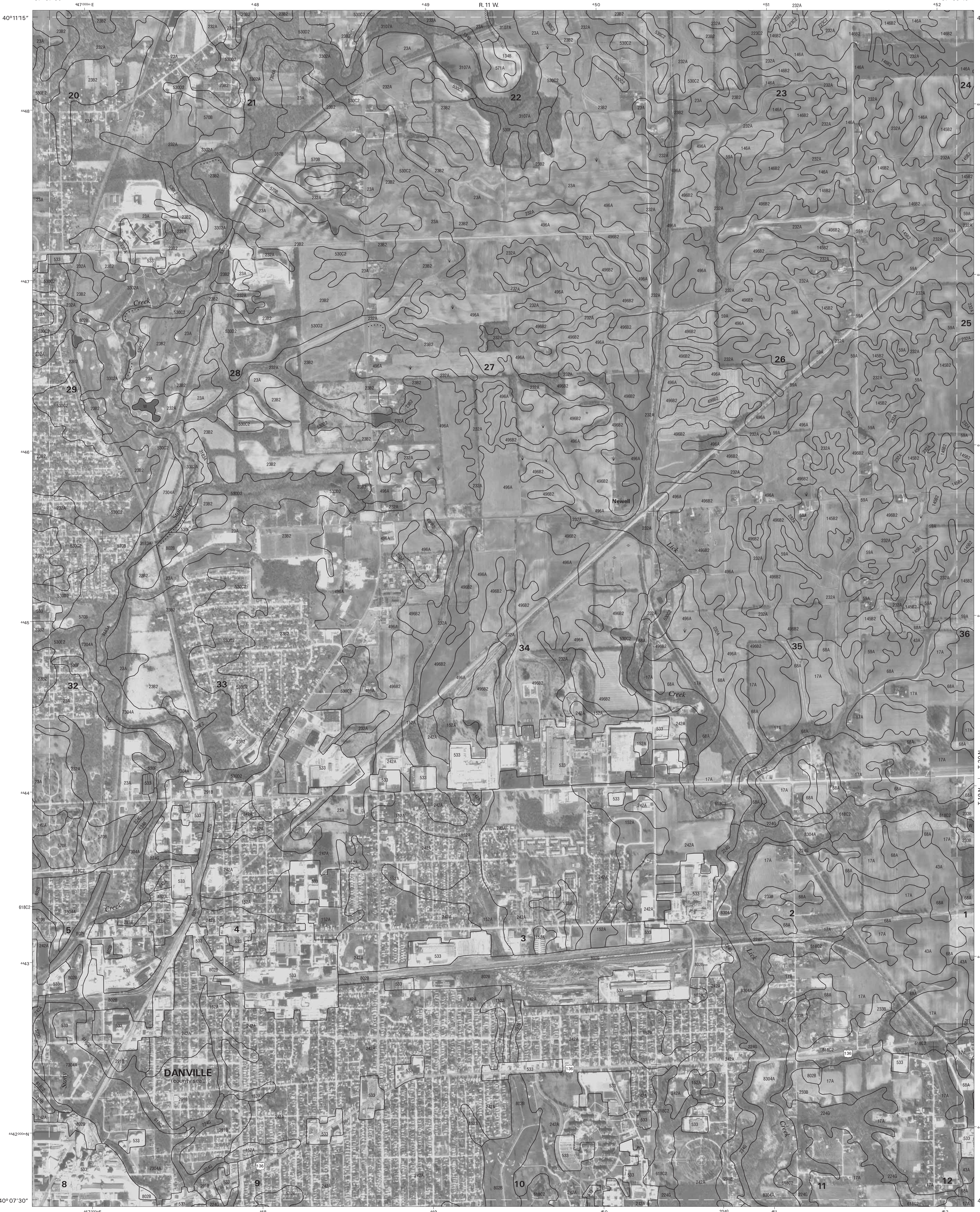
SHEET NUMBER 40 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

33	34	35
40		42
47	48	49

33 DANVILLE NW NE
34 DANVILLE NE NW
35 DANVILLE NE NE
40 DANVILLE NW SE
42 DANVILLE NE SE
47 DANVILLE SW NE
48 DANVILLE SE NW
49 DANVILLE SE NE

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DANVILLE NE SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 41 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 34, Danville NE NW

Joins sheet 35, Danville NE NE

Joins sheet 41, Danville NE SW

Joins sheet 49, Danville SE NE

Joins sheet 48, Danville SE NW

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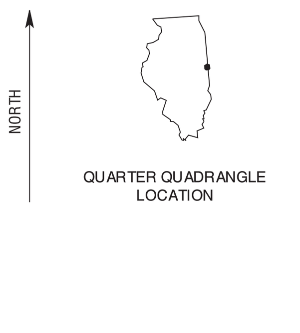
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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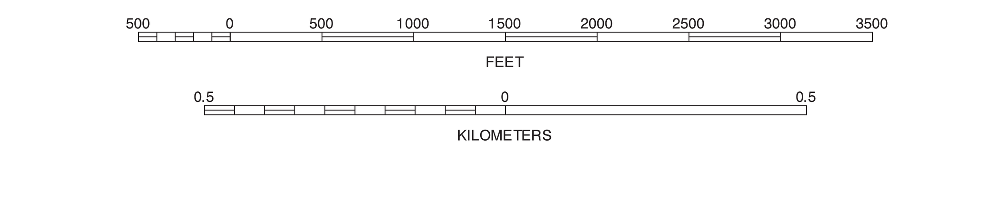
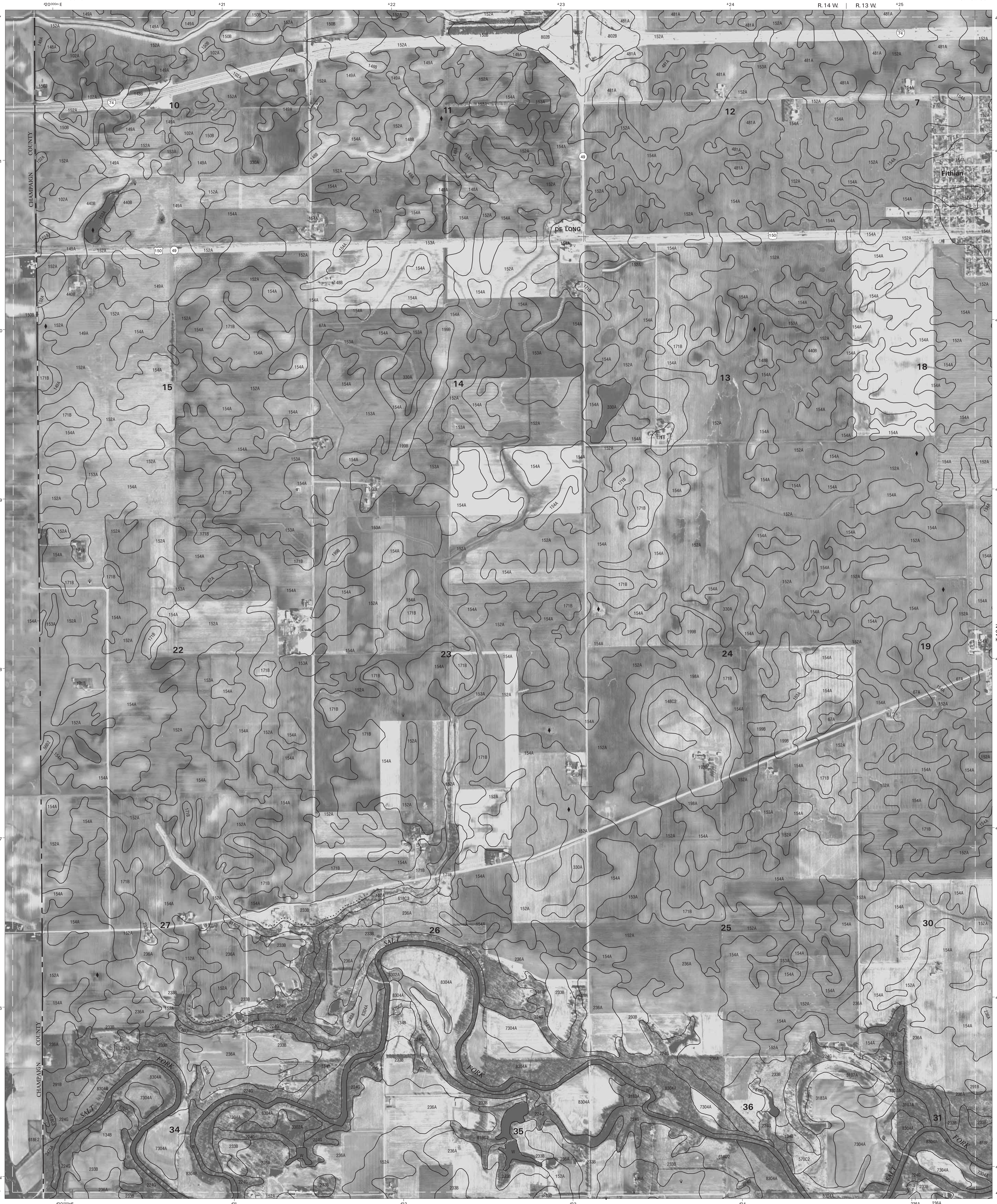


DANVILLE NE SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 42 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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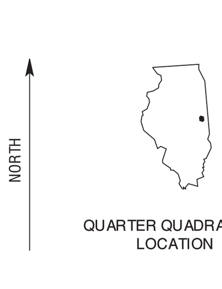
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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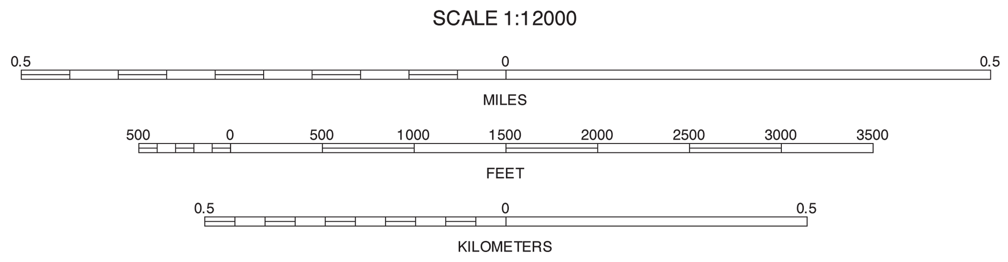


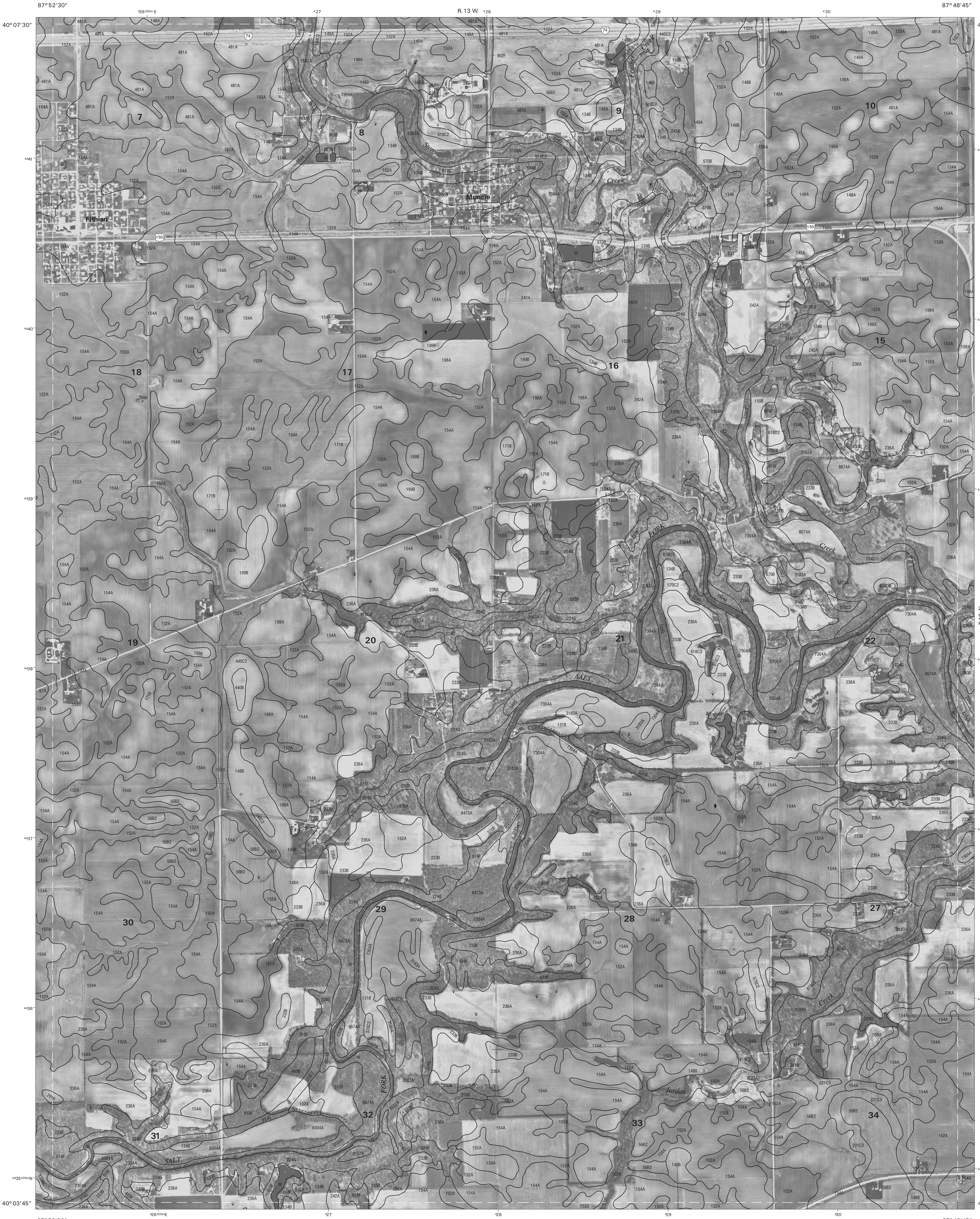
	36	37
	■	44
	50	51

36 ROYAL SE
37 COLLISON SW
44 OAKWOOD NW
50 HOMER SE
51 OAKWOOD SW

INDEX TO ADJOINING 3.75 MAPS

HOMER NE, (OVERSIZED) ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 43 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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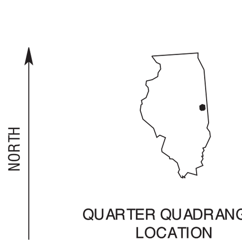
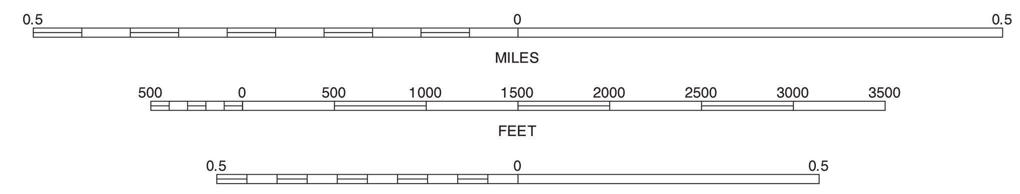
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION



36	37	38
43		45
50	51	52

36 ROYAL SE
37 COLLISON SW
38 COLLISON SE
43 HOMER NE
45 OAKWOOD NE
50 HOMER SE
51 OAKWOOD SW
52 OAKWOOD SE

INDEX TO ADJOINING 3.75 MAPS

OAKWOOD NW, ILLINOIS

3.75 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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VERMILION COUNTY, ILLINOIS
OAKWOOD NE QUADRANGLE
SHEET NUMBER 45 OF 71

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

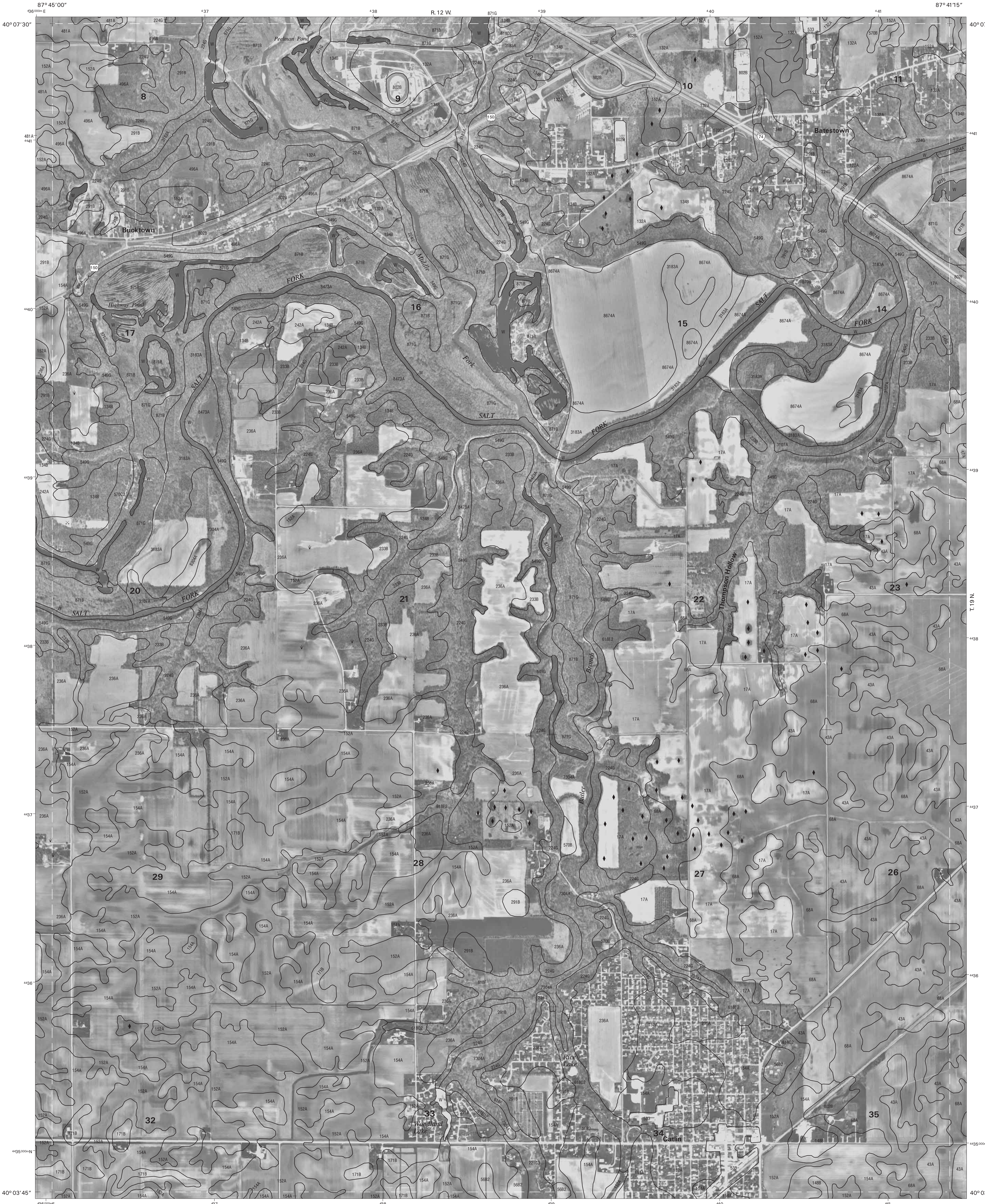
37	38	39
44		46
51	52	53

37 COLLISON SW
38 COLLISON SE
39 DANVILLE NW SW
44 OAKWOOD NW
46 DANVILLE SW NW
51 OAKWOOD SW
52 OAKWOOD SE
53 DANVILLE SW SW

INDEX TO ADJOINING 3.75 MAPS

OAKWOOD NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 45 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

38	39	40
45		47
52	53	54

38 COLLISON SE
39 DANVILLE NW SW
40 DANVILLE NW SE
45 OAKWOOD NE
47 DANVILLE SW NE
52 OAKWOOD SE
53 DANVILLE SW SW
54 DANVILLE SW SE

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DANVILLE SW NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 46 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES 0.5 0 0.5

FEET 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS 0.5 0 0.5

39	40	41
46		48
53	54	55

39 DANVILLE NW SW
40 DANVILLE NW SE
41 DANVILLE NE SW
46 DANVILLE SW NW
48 DANVILLE SE NW
53 DANVILLE SW SW
54 DANVILLE SW SE
55 DANVILLE SE SW

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DANVILLE SW NE, ILLINOIS
3.75 MINUTE SERIES
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VERMILION COUNTY, ILLINOIS
DANVILLE SE NW QUADRANGLE
SHEET NUMBER 48 OF 71

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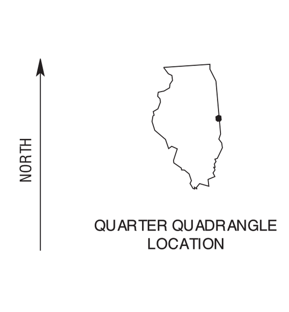
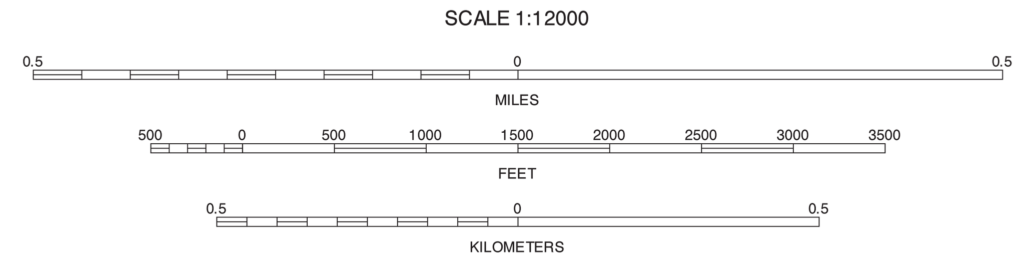
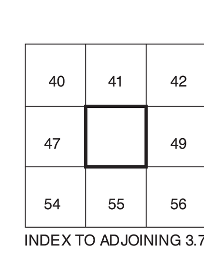
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.







40 DANVILLE NW SE
41 DANVILLE NE SW
42 DANVILLE NE SE
47 DANVILLE SW NE
49 DANVILLE SE NE
54 DANVILLE SW SE
55 DANVILLE SE SW
56 DANVILLE SE SE

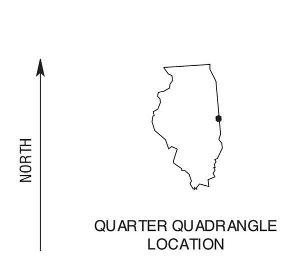
INDEX TO ADJOINING 3.75 MAPS

DANVILLE SE NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 48 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

41 DANVILLE NE SW
42 DANVILLE NE SE
48 DANVILLE SE NW
55 DANVILLE SE SW
56 DANVILLE SE SE

INDEX TO ADJOINING 3.75 MAPS

DANVILLE SE NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 49 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

87° 56′15″ 87° 52′30″

40° 03′45″

40° 00′00″

87° 56′15″ 87° 52′30″

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

43 HOMER NE
44 OAKWOOD NW
51 OAKWOOD SW
57 ALLERTON NE
58 SIDELL NW

INDEX TO ADJOINING 3.75 MAPS

HOMER SE, (OVERSIZED) ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 50 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
OAKWOOD SW QUADRANGLE
SHEET NUMBER 51 OF 71

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES (0.5 – 0 – 0.5)

FEET (500 – 0 – 500 – 1000 – 1500 – 2000 – 2500 – 3000 – 3500)

KILOMETERS (0.5 – 0 – 0.5)

43	44	45
50		52
57	58	59

43 HOMER NE
44 OAKWOOD NW
45 OAKWOOD NE
50 HOMER SE
52 OAKWOOD SE
57 ALLERTON NE
58 SIDELL NW
59 SIDELL NE

INDEX TO ADJOINING 3.75 MAPS

OAKWOOD SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 51 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
OAKWOOD SE QUADRANGLE
SHEET NUMBER 52 OF 71

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

44	45	46
51		53
58	59	60

44 OAKWOOD NW
45 OAKWOOD NE
46 DANVILLE SW NW
51 OAKWOOD SW
53 DANVILLE SW SW
58 SIDELL NW
59 SIDELL NE
60 GEORGETOWN NW

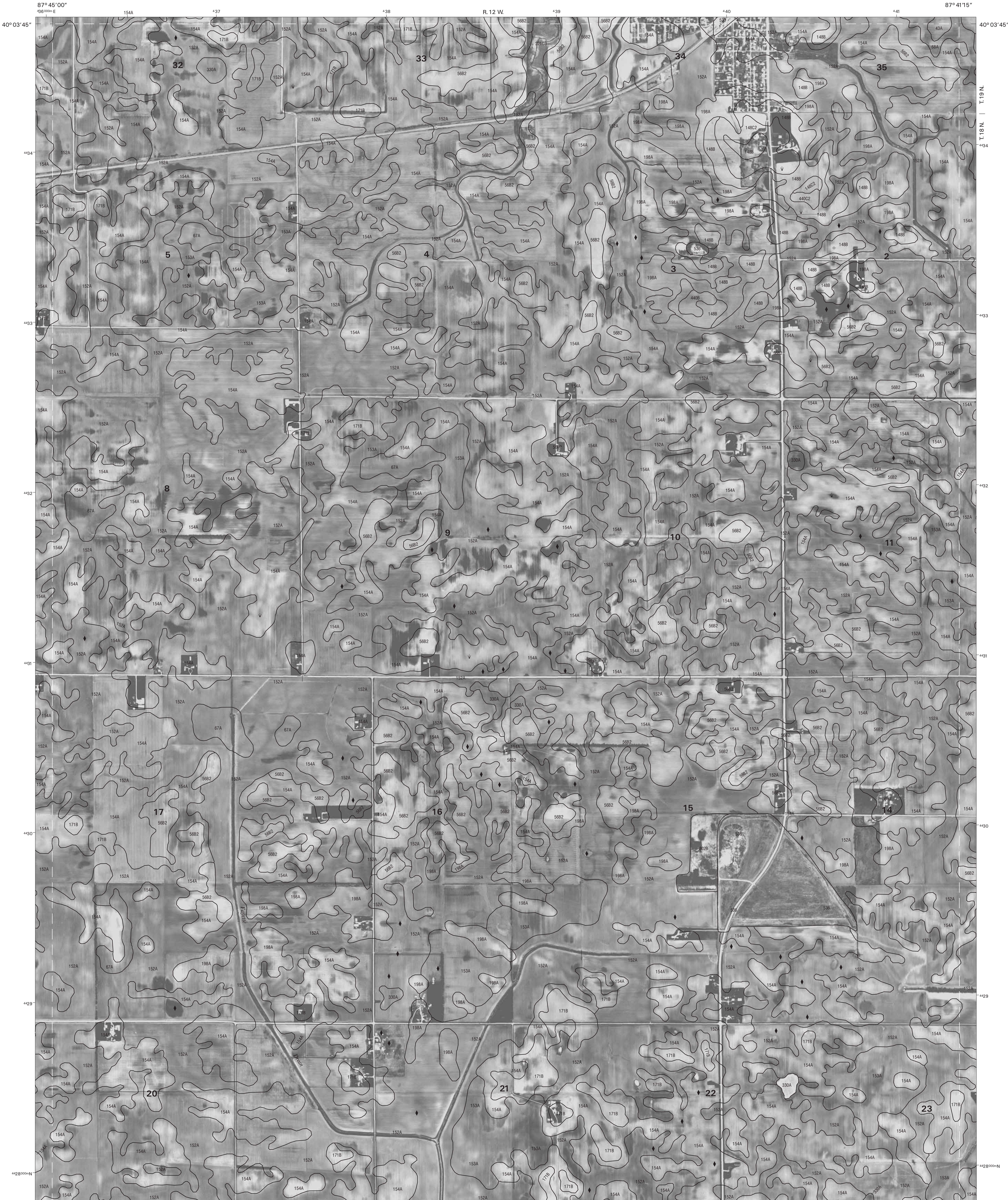
INDEX TO ADJOINING 3.75 MAPS

OAKWOOD SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 52 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
DANVILLE SW SW QUADRANGLE
SHEET NUMBER 53 OF 71



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

45	46	47
52		54
59	60	61

45 OAKWOOD NE
46 DANVILLE SW NW
47 DANVILLE SW NE
52 OAKWOOD SE
54 DANVILLE SW SE
59 SIDELL NE
60 GEORGETOWN NW
61 GEORGETOWN NE

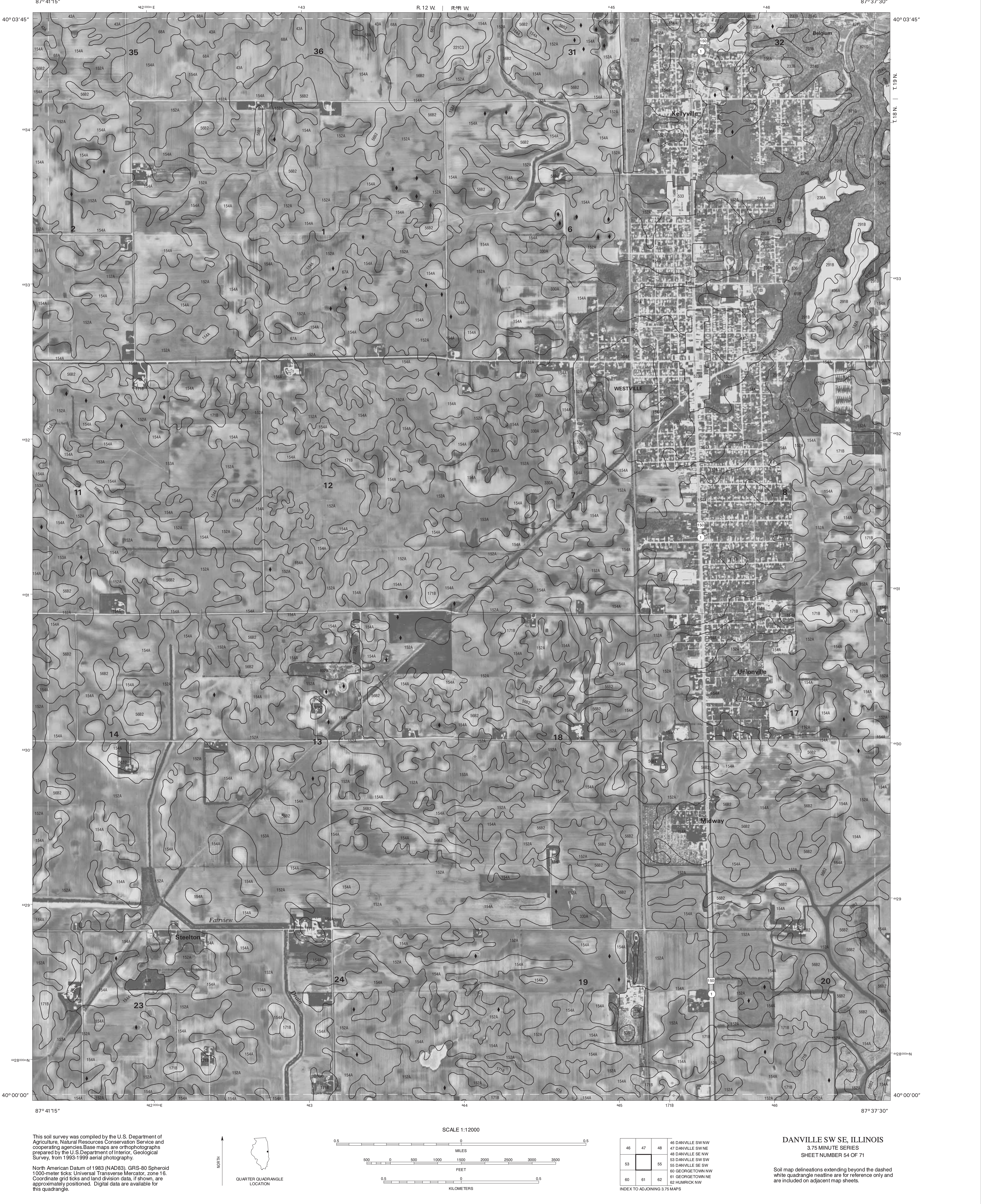
INDEX TO ADJOINING 3.75 MAPS

DANVILLE SW SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 53 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
DANVILLE SW SE QUADRANGLE
SHEET NUMBER 54 OF 71



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

DANVILLE SW SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 54 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
DANVILLE SE SW QUADRANGLE
SHEET NUMBER 55 OF 71

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

47	48	49
54		56
61	62	63

47 DANVILLE SW NE
48 DANVILLE SE NW
49 DANVILLE SE NE
54 DANVILLE SW SE
56 DANVILLE SE SE
61 GEORGETOWN NE
62 HUMRICK NW
63 HUMRICK NE

INDEX TO ADJOINING 3.75 MAPS

DANVILLE SE SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 55 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

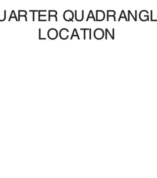
87° 33′45″ 87° 30′00″
40° 03′45″

40° 00′00″
87° 33′45″ 87° 30′00″

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

48	49	
55		
62	63	

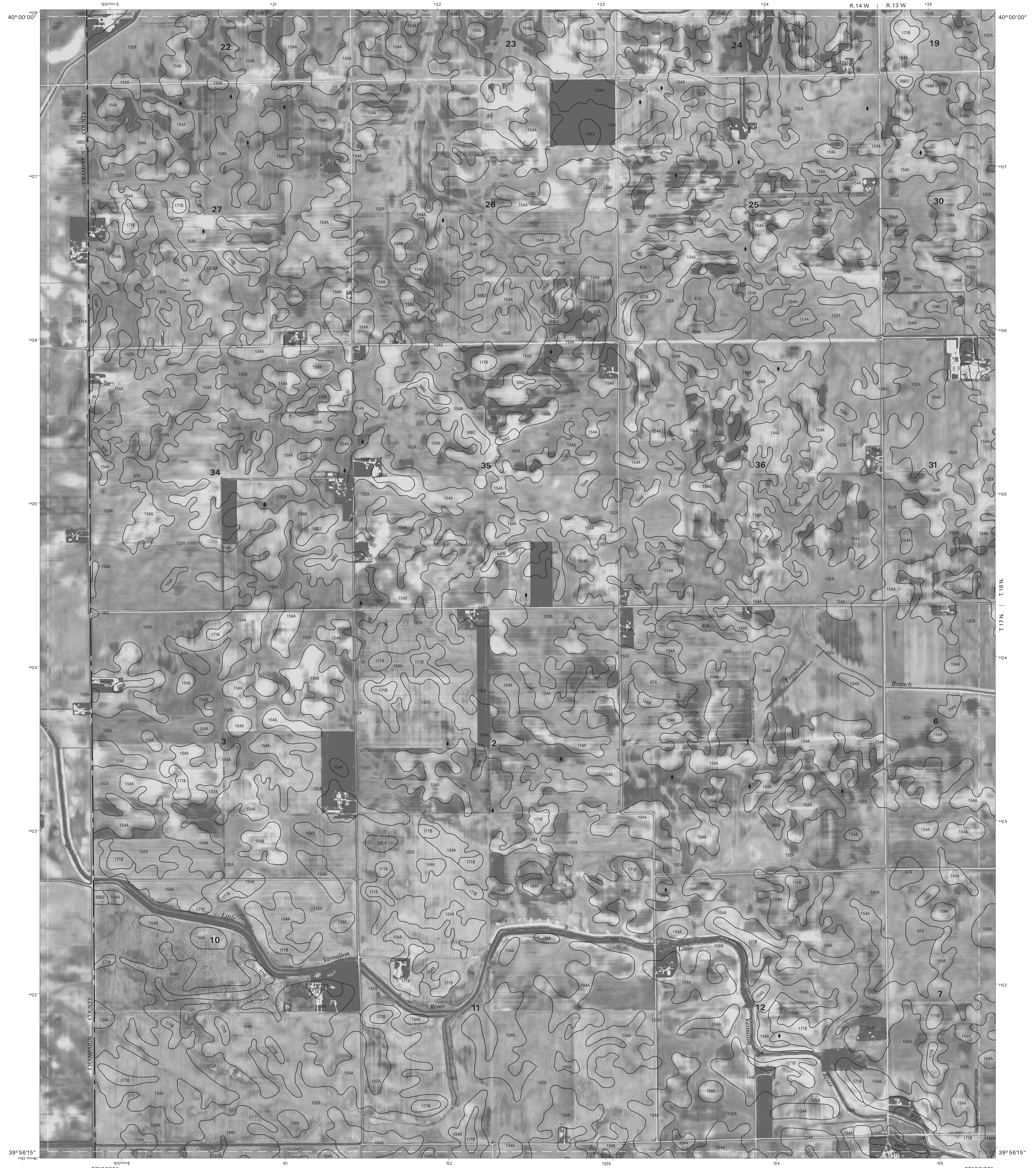
48 DANVILLE SE NW
49 DANVILLE SE NE
55 DANVILLE SE SW
62 HUMRICK NW
63 HUMRICK NE

INDEX TO ADJOINING 3.75 MAPS

DANVILLE SE SE, ILLINOIS

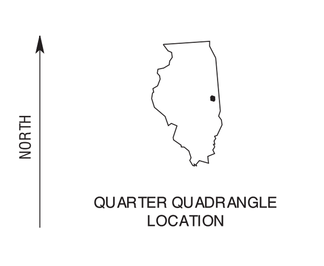
3.75 MINUTE SERIES
SHEET NUMBER 56 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

	50	51	50 HOMER SE 51 OAKWOOD SW
		58	58 SIDELL NW
	64	65	64 ALLERTON SE 65 SIDELL SW

INDEX TO ADJOINING 3.75 MAPS

ALLERTON NE, (OVERSIZED) ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 57 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
SIDELL NW QUADRANGLE
SHEET NUMBER 58 OF 71

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

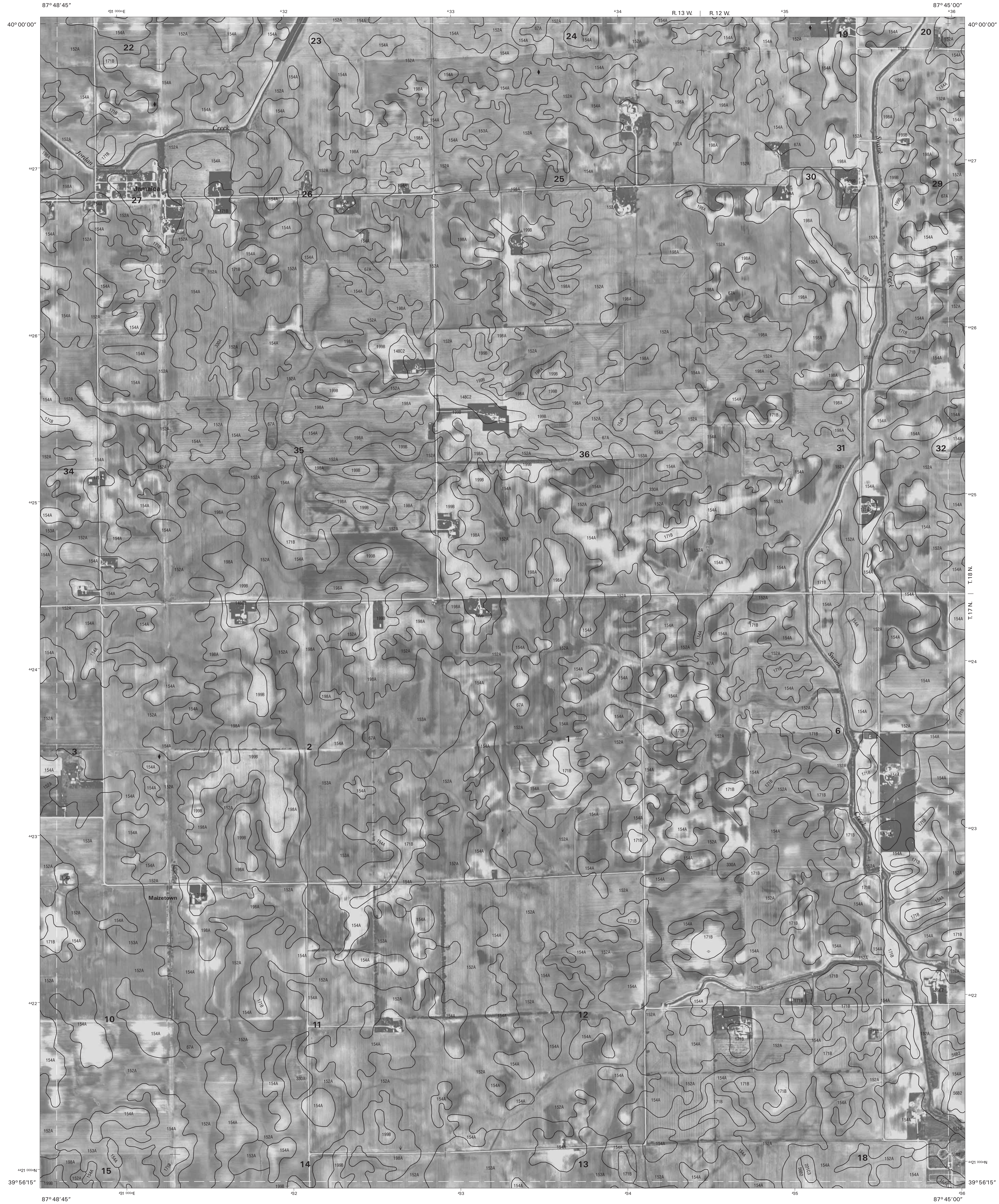
50	51	52
57		59
64	65	66

50 HOMER SE
51 OAKWOOD SW
52 OAKWOOD SE
57 ALLERTON NE
59 SIDELL NE
64 ALLERTON SE
65 SIDELL SW
66 SIDELL SE

INDEX TO ADJOINING 3.75 MAPS

SIDELL NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 58 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

51	52	53
58		60
65	66	67

51 OAKWOOD SW
52 OAKWOOD SE
53 DANVILLE SW SW
58 SIDELL NW
60 GEORGETOWN NW
65 SIDELL SW
66 SIDELL SE
67 GEORGETOWN SW

INDEX TO ADJOINING 3.75 MAPS

SIDELL NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 59 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
GEORGETOWN NW QUADRANGLE
SHEET NUMBER 60 OF 71

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

52	53	54
59		61
66	67	68

52 OAKWOOD SE
53 DANVILLE SW SW
54 DANVILLE SW SE
59 SIDELL NE
61 GEORGETOWN NE
66 SIDELL SE
67 GEORGETOWN SW
68 GEORGETOWN SE

INDEX TO ADJOINING 3.75 MAPS

GEORGETOWN NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 60 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

53	54	55
60		62
67	68	69

53 DANVILLE SW SW
54 DANVILLE SW SE
55 DANVILLE SE SW
60 GEORGETOWN NW
62 HUMRICK NW
67 GEORGETOWN SW
68 GEORGETOWN SE
69 HUMRICK SW

INDEX TO ADJOINING 3.75 MAPS

GEORGETOWN NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 61 OF 71

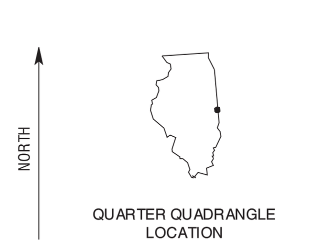
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
HUMRICK NW QUADRANGLE
SHEET NUMBER 62 OF 71

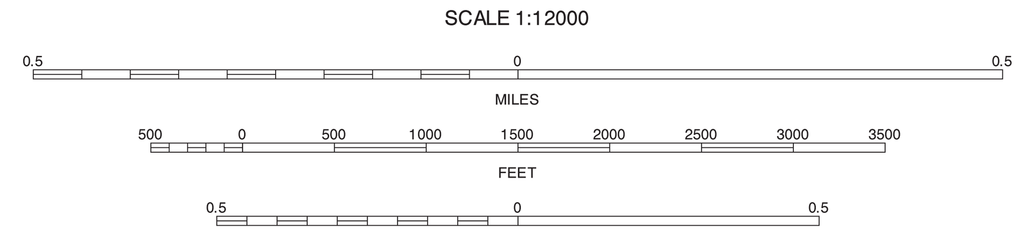
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



54	55	56	54 DANVILLE SW SE 55 DANVILLE SE SW 56 DANVILLE SE SE
61		63	61 GEORGETOWN NE 63 HUMRICK NE 68 GEORGETOWN SE
68	69	70	69 HUMRICK SW 70 HUMRICK SE

INDEX TO ADJOINING 3.75 MAPS

HUMRICK NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 62 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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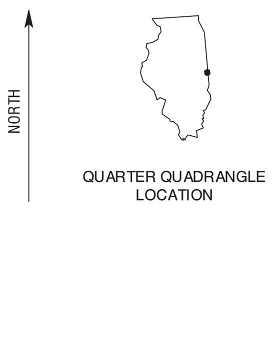
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

55	56	
62		
69	70	

55 DANVILLE SE SW
56 DANVILLE SE SE
62 HUMRICK NW
69 HUMRICK SW
70 HUMRICK SE

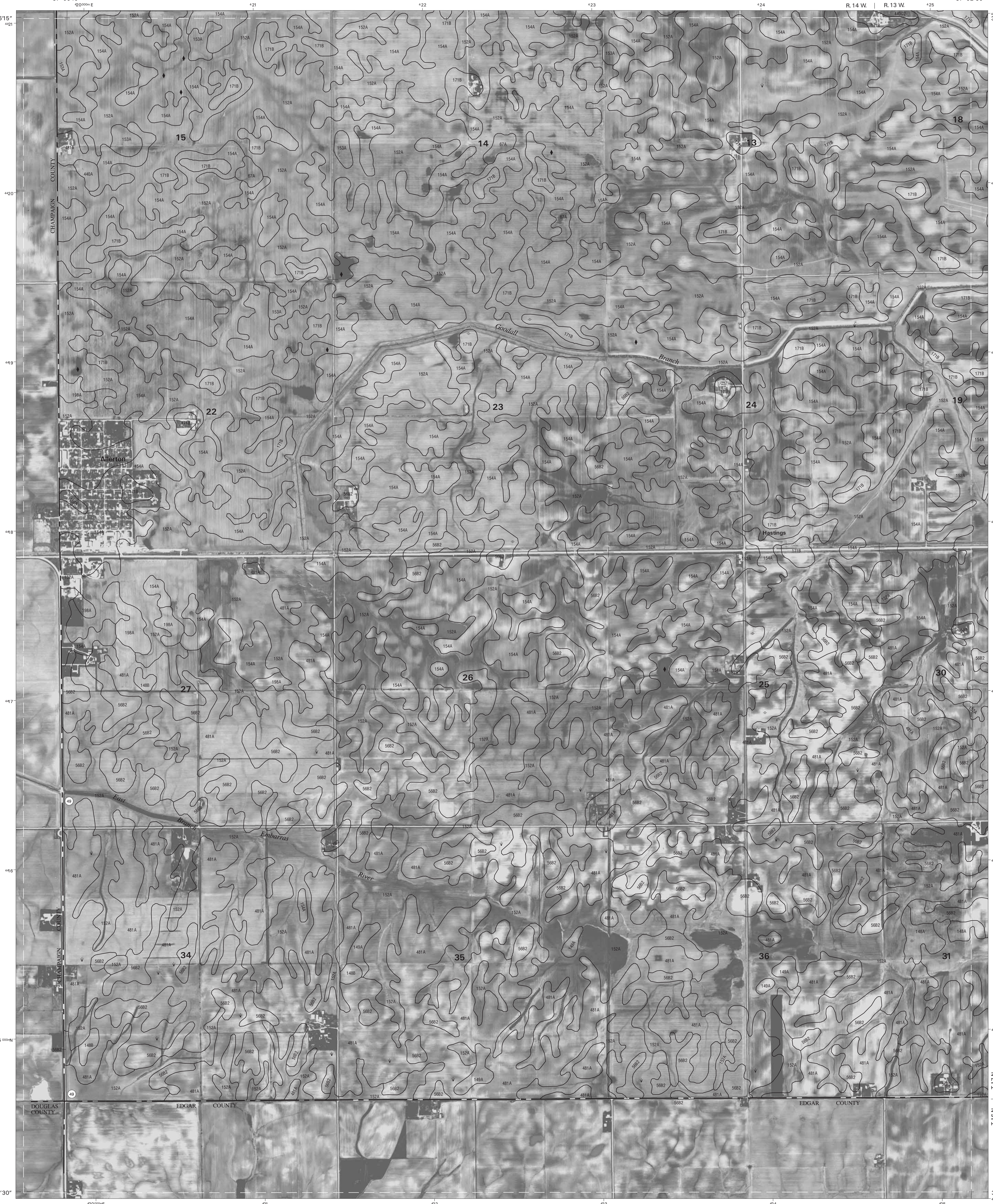
INDEX TO ADJOINING 3.75 MAPS

HUMRICK NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 63 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
ALLERTON SE QUADRANGLE (OVERSIZED)
SHEET NUMBER 64 OF 71



SCALE 1:12000

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

MILES

FEET

KILOMETERS

57	58	57 ALLERTON NE 58 SIDELL NW
		65	65 SIDELL SW

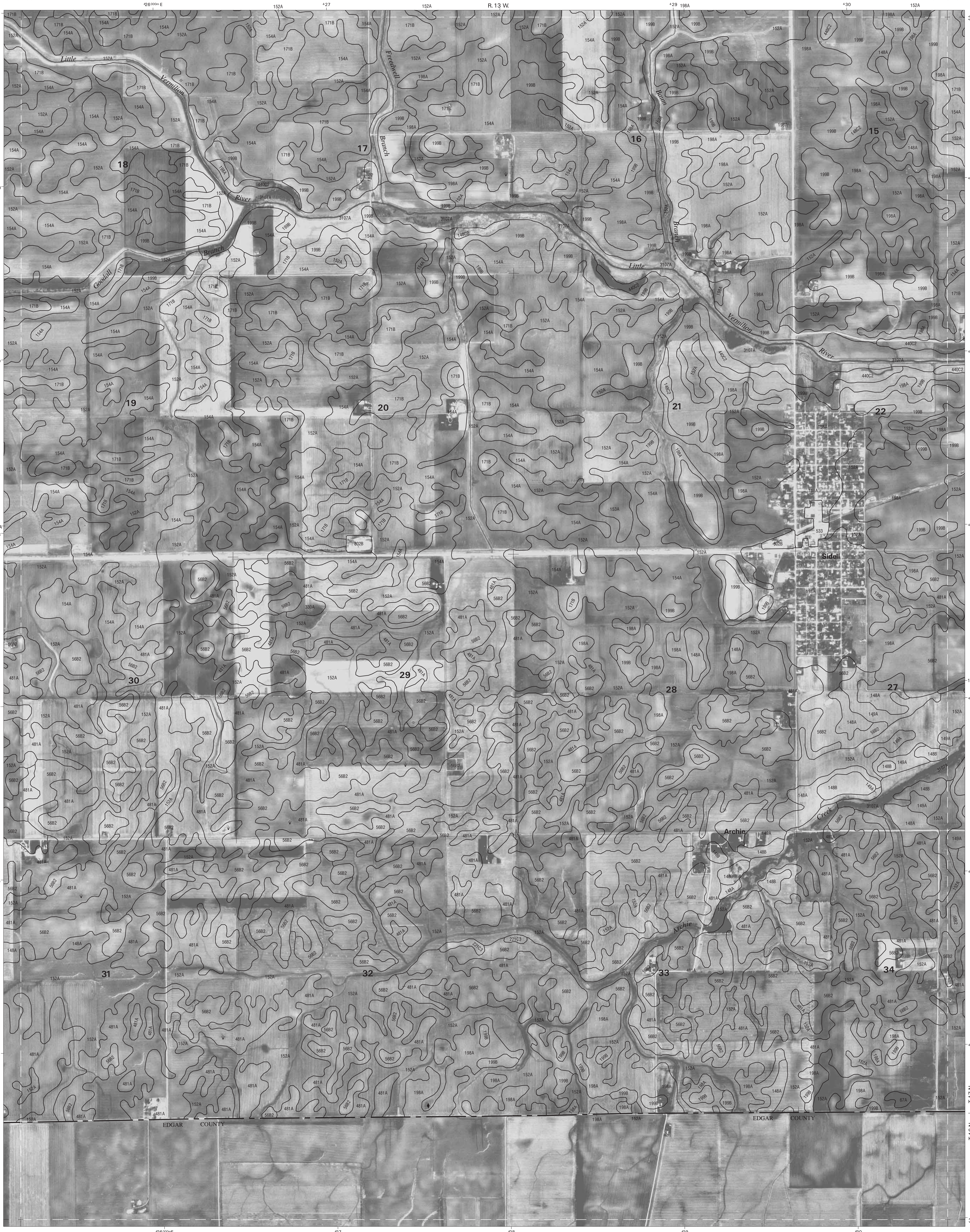
INDEX TO ADJOINING 3.75 MAPS

ALLERTON SE, (OVERSIZED) ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 64 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
SIDELL SW QUADRANGLE
SHEET NUMBER 65 OF 71



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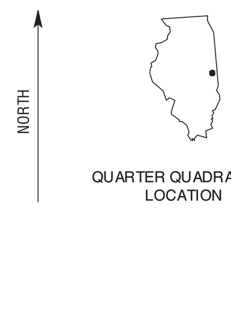
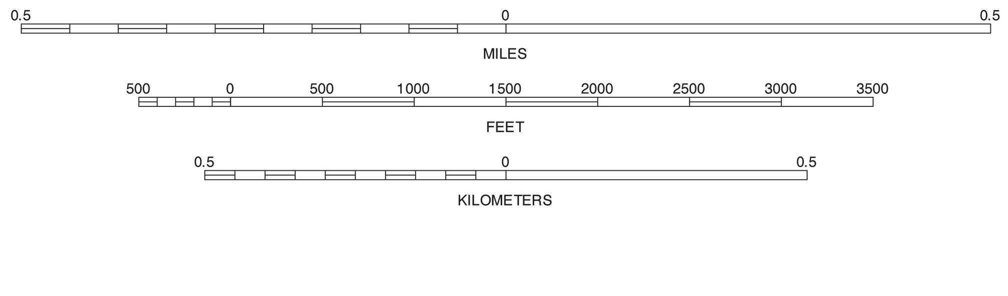
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



SCALE 1:12000



57	58	59
64		66

57 ALLERTON NE
58 SIDELL NW
59 SIDELL NE
64 ALLERTON SE
66 SIDELL SE

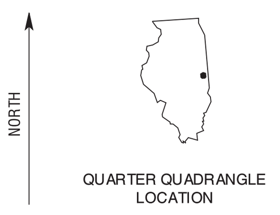
INDEX TO ADJOINING 3.75 MAPS

SIDELL SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 65 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1993-1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

58	59	60
65		67

58 SIDELL NW
59 SIDELL NE
60 GEORGETOWN NW
65 SIDELL SW
67 GEORGETOWN SW

INDEX TO ADJOINING 3.75 MAPS

SIDELL SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 66 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

87° 45′00″ — 87° 41′15″
39° 56′15″

39° 52′30″
87° 45′00″ — 87° 41′15″

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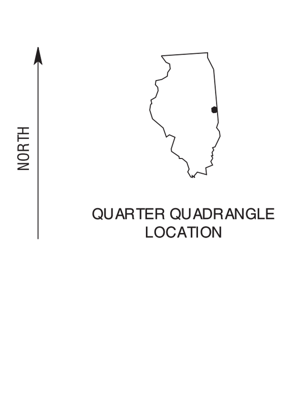
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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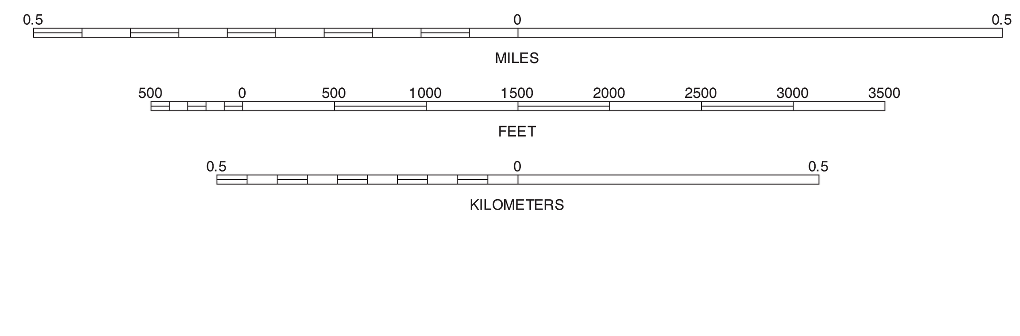

59	60	61
66		68

59 SIDELL NE
60 GEORGETOWN NW
61 GEORGETOWN NE
66 SIDELL SE
68 GEORGETOWN SE

INDEX TO ADJOINING 3.75 MAPS

GEORGETOWN SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 67 OF 71

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

VERMILION COUNTY, ILLINOIS
GEORGETOWN SE QUADRANGLE
SHEET NUMBER 68 OF 71

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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 — 0 — 0.5

FEET: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500

KILOMETERS: 0.5 — 0 — 0.5

60	61	62
67		69
		71

60 GEORGETOWN NW
61 GEORGETOWN NE
62 HUMRICK NW
67 GEORGETOWN SW
69 HUMRICK SW
71 SCOTTLAND NW

INDEX TO ADJOINING 3.75 MAPS

GEORGETOWN SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 68 OF 71

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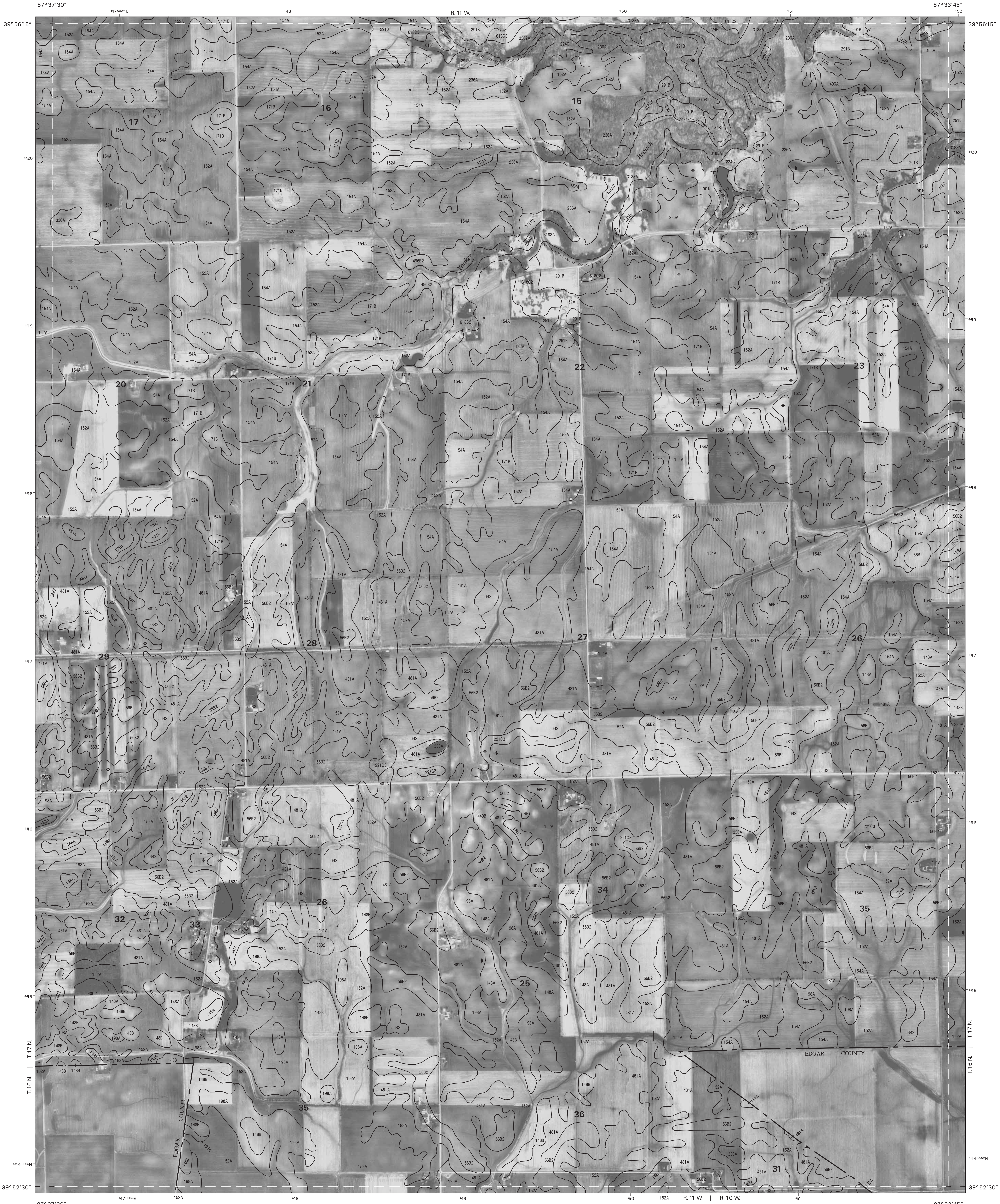

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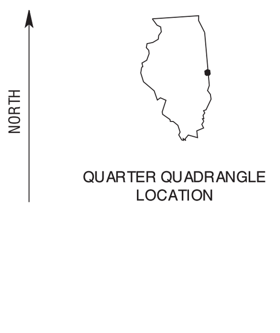
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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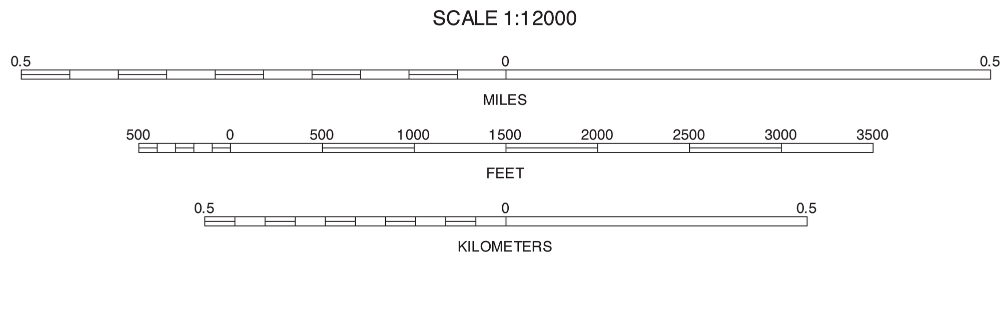

61	62	63
68		70
	71	

61 GEORGETOWN NE
62 HUMRICK NW
63 HUMRICK NE
68 GEORGETOWN SE
70 HUMRICK SE
71 SCOTTLAND NW

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HUMRICK SW, ILLINOIS

3.75 MINUTE SERIES
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VERMILION COUNTY, ILLINOIS
HUMRICK SE QUADRANGLE
SHEET NUMBER 70 OF 71

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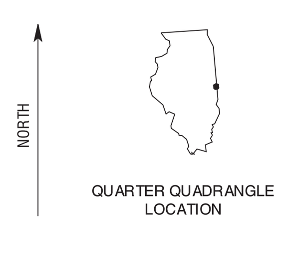

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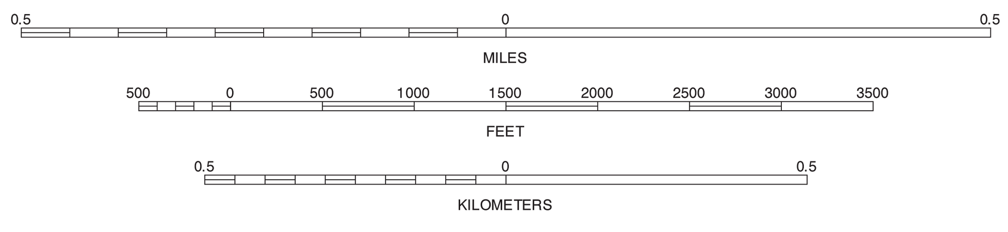

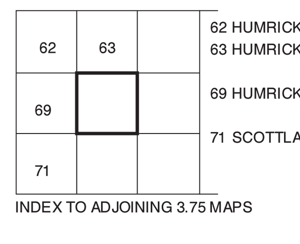

HUMRICK SE, ILLINOIS
3.75 MINUTE SERIES
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VERMILION COUNTY, ILLINOIS
SCOTTLAND NW QUADRANGLE (OVERSIZED)
SHEET NUMBER 71 OF 71

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

68	69	70

68 GEORGETOWN SE
69 HUMRICK SW
70 HUMRICK SE

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SCOTTLAND NW, (OVERSIZED) ILLINOIS
3.75 MINUTE SERIES
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